

Ultracentrifugation Optima MAX-XP

Standard Operation Procedure

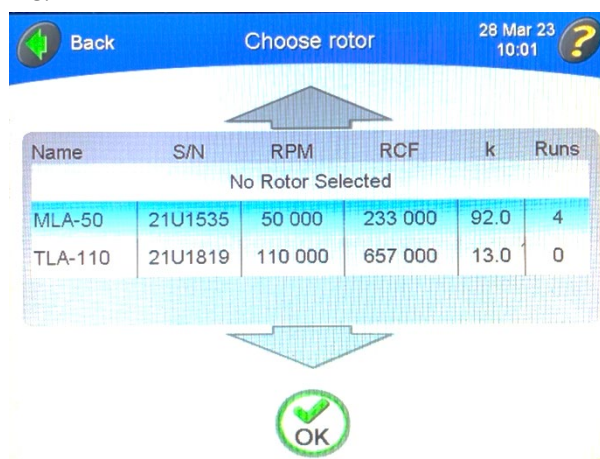
1. Get a personal introduction to the centrifuge (see OpenIris), read the safety instruction in the Operational Manual and the Centrifuge Manual before the first use.

Note: An introduction by the device responsible person to the ultracentrifuge is mandatory before the first use and need to be documented in the centrifuge book by signature.

2. Book the centrifuge via OpenIris. Register in the centrifuge log book and turn on the ultracentrifuge.

Note: Make sure that you use a time for centrifugation when no one else is using the lab as the centrifuge produces a loud noise, that no solvents are close to the centrifuge and no one is less than 30cm close to the centrifuge while the centrifuge is running.

3. Select the rotor you need (MLA-50, TLA-110), according to:
 - a. Centrifugal force required;
 - b. Sample volume.



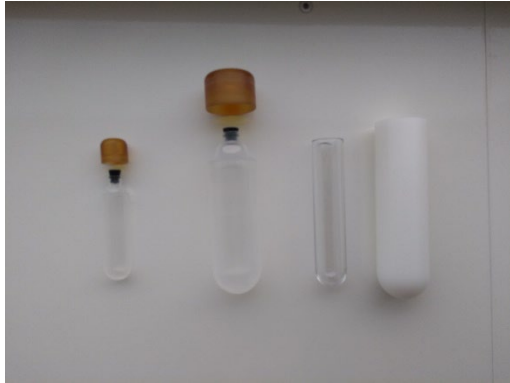
4. Rotors need to be stored in the Biolabs's cold room 114.2 in a box.

Note: Make sure that you store and handle rotors with care as even slightly damaged or scratched rotors cannot be used anymore.

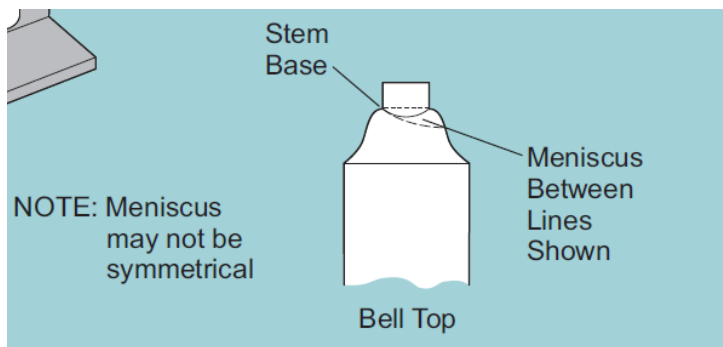
5. In the first step of a manual run, install the rotor and perform any precooling or prewarming procedures that may be required.
 - a. Make sure the tubes are compatible with the rotor you selected.

Note: Compatibility need to be checked in the centrifuge and tubes manual.

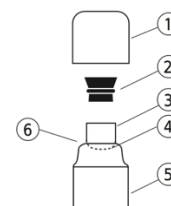
6. Load the filled and sealed (if applicable) tubes symmetrically into the rotor.
 - a. Opposing tubes must be filled to the same level with liquid of the same density. Carefully fill and balance the tubes by using a balance and pipet **at least > ± 20 mg!!!**
 - b. Biosafety samples have to be handled in a closed tube.



- c. **Thickwall polypropylene** and polycarbonate tubes can be run partially filled (at least 1/2 filled to max. capless level with or without caps).
- d. **OptiSeal Tubes**, do not leave a large air space in the tubes. Too much air can cause excessive tube deformation. Use a pipette to fill each tube. Make sure that no fluid is trapped in the tube stem, and that the stem is clean and dry before inserting plug properly. Make sure the spacer is correctly placed on top of the tube.



OptiSeal Tubes



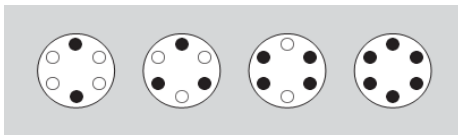
- | | |
|-----------|-----------------|
| 1. Spacer | 4. Meniscus |
| 2. Plug | 5. Tube |
| 3. Stem | 6. Base of Stem |

- e. *Note: Do not use solvents or other hazardous compounds in this centrifuge. For filling, closing, loading and handling the tubes carefully refer to the companies' manuals.*

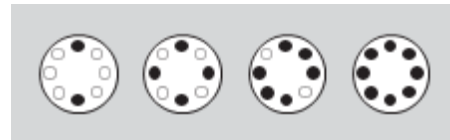
7. Arranging Tubes in the Rotor

- a. Tubes must be arranged symmetrically in the rotor.

MLA-50



TLA-110



IMPORTANT:

TLA-110 has to be extra locked on the spindle via the button on the rotor lid!

8. On the main screen set the Speed, Time, and Temperature for your run.



9. On the Main screen, press the **START** button.

- a. The rotor starts spinning.
b. The vacuum system turns on unless it was previously turned on.

10. At the end of the run, remove your samples and place the rotor in the cold room.

Note: In case of errors, do not start the run again, open the centrifuge carefully and in case you handle RG2/S2 organisms, open the rotor after centrifugation in a sterile bench, wear an FFP2

mask and inform the person responsible for the centrifuge and Katharina Achazi, Stefanie Wedepohl or Daniel Lauster.

11. Make sure everything is clean without any leakage in the rotor compartment. In case of leakage, clean everything with the disinfection compatible with the rotor and the centrifuge (refer to the manual).
12. Leave the lid of the centrifuge open so that moisture can escape.
13. Turn off the ultracentrifuge.
14. Close the lid of the centrifuge when the interior is dry.