Zeiss Celldiscoverer 7



Startup

Open the main valve of the CO₂ tank (if needed) by turning it *one* round (counter-clockwise). The tank should have a pressure of ~50 bar, the pressure reducer ~1 bar.



2. Open the front door of the instrument by pulling the lock below the TFT display to the left. Check the liquid level in the humidifier, water immersion and waste bottles.





3. To resplenish water in the humidifier, take out the bottle from its metal housing. Press the snaps on *connectors A and B*, and pull out the tubings. Do not disconnect the third, unlabeled connector. Resplenish only ultrapure and deionized water and re-connect tubings A and B. To resplenish immersion liquid and to empty the immersion waste bottle, press the metal snaps and pull out the tubings.



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- 4. Activate the system by pressing the Standby button (to the left of the touch panel).
- Power up the PC and start the ZEN software. In the "Incubation" tool (lower right corner of the workspace), check the setpoint of the temperature (default: 37°C). Activate the CO₂ checkbox ("CO2 Small V") and set the "Pump Level" to 1 or 2 (not more!). The "Auto Immersion" tool should indicate "Sufficient" for the immersion tank level.



Incubation

mfpl

Loading a sample

- 1. Activate the "Sample" tab.
- 2. Click "Eject Tray".
- 3. Mount the sample. Multiwell plates can be directly inserted into the mounting frame (position A1 is indicated on the frame). For other dishes, use appropriate inserts.
- 4. Make sure that the sample is installed even and can move in XY by ~1 mm.
- 5. In the "Sample" tab, select the carrier. Select "Multichamber" for multiwell plates with square wells, "Multiwell" for those with round wells.
- 6. Under "Carrier Data > Default Container", select a well containing liquid (this well is used for bottom thickness and material determination).
- Under "Prescan Options > Default Container", uncheck "Sample Carrier Detection" and "Read Barcodes" (slow and unreliable functions).
- 8. Click "Load Sample".





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Shutdown

- 1. Activate the "Sample" tab, click "Eject Tray". Remove your sample.
- 2. In the "Incubation" tool, uncheck "CO2 Small V". Leave "Heating" checked and at 37°C.

Navigation - ZEN 2.3 celldiscovere		1. In such at last			
File Edit View Acquisition	n Graphics Macro	Tools Window			
, e 11 r %			 Temperature 		
Sample Acquisition Pro	cessing Analysis	Extensic 3	Heating	Setpoint Measured 37.0 °C 37.1 °C	
Load Sample	Eject	Tray	C Atmost are		
State: Ready Posi	tion: Prescan		✓ CO2 Small V Fan Speed	5.0 % 🗘 5 %	
Multichamber 96	(Select m		· .	
Multichamber 50			🔽 🍐 Auto Imme	rsion 🗸 Show All	
Measure Bottom Thickness Re-Measure			Tank Level Sufficient		
Determine Bottom Material Get Material			✓ Enable Immersi	✓ Enable Immersion	
Carrier Data					
A 1 2 3 4 5 6 7 8 9 10 11 12 A 1 2 3 4 5 6 7 8 9 10 11 12		Glass/COC 🔻	Crea		
		1.520	Rem		

3. Exit ZEN. A dialog will pop, asking to switch off the heating. Click "No" (i.e., do not turn it off).



- 4. Shut down the PC
- 3. Close the main valve of the CO₂ tank (clockwise).
- 4. On the touch panel of the instrument, hit "Load Sample" (to close the unit).
- 5. Press the "Standby" button to the left of the display. The tray will move into the unit.

System Over	System Dverview				
Objective:	Plan-Apochromat 5x(0).35 1.0x Tubelens				
Heating:	37.0°C/37.0°C				
Filing Immersion	: Supply: 100% Waste: 0%				
Filing Humidifier	Supply: 100%				
Sample Canter:	Multichamber 96				
PC Connection:					
Devices	Load Sample Statu				