

EPFL - STI - CMI

VACO 250

WARNING

Only the **CMi Staff** and **authorized users** are qualified

- to do a **service**
- to do a **maintenance**

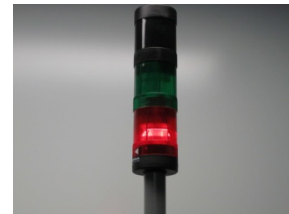
Each user has to

- **install** by himself / herself **his / her own** boats.
- **fill** by himself / herself boats with evaporation materials.

User manual

1. Idle State

- 1.1. Chamber under vacuum
- 1.2. Primary pump = ON
- 1.3. Turbo pump = ON
- 1.4. Substrate holder rotation = OFF
- 1.5. Current generator = OFF
- 1.6. Thickness monitor = ON



2. Login

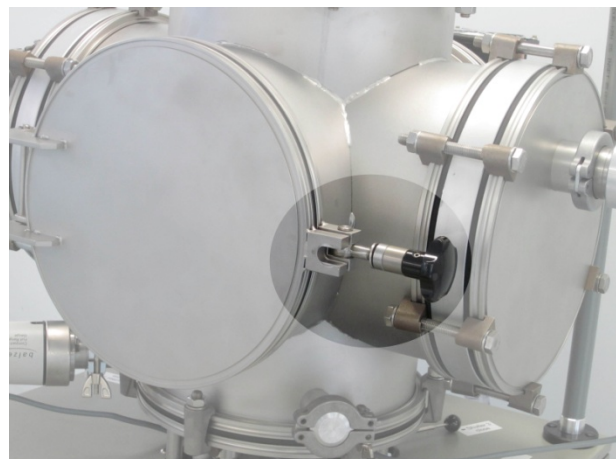
- 2.1. ACCESS CONTROL SYSTEM : Logon on the VACO 250
 - LIGHT on the VACO 250 : **RED** → **GREEN** : OK

3. Venting

- 3.1. Turbo pump : **pushbutton STOP**
- 3.2. **WAIT 5 minutes** : turbo pump deceleration
- 3.3. Primary pump : **OFF**



- 3.4. Chamber door : **TO BE LOOSENED**



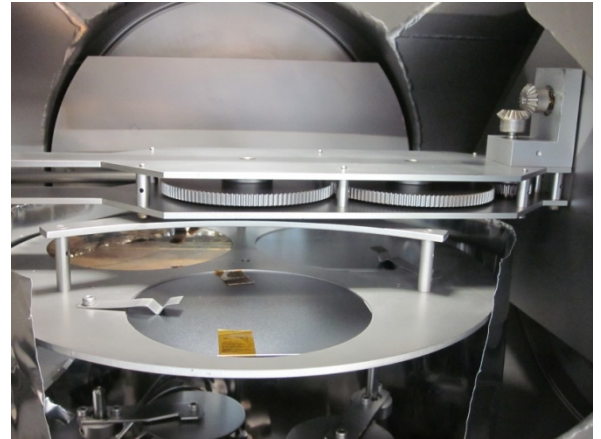
3.5. Venting

- Green venting valve : **OPEN SLOWLY**



4. Loading

- 4.1. Load 3 wafers : **DUMMY WAFERS** if necessary

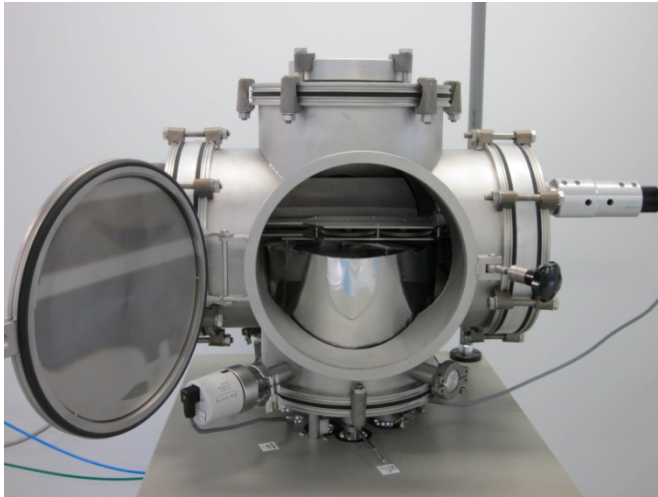


- 4.2. Boats: **TO BE INSTALLED**



- 4.3. Boats: **TO BE FILLED** with evaporation materials

4.4. Aluminum foil : **TO BE PUT BACK**



5. Pumping

5.1. Green venting valve : **CLOSE**

5.2. Primary pump : **START**



5.3. Wait : **10 mbar**

5.4. Turbo pump : pushbutton **START**

5.5. Wait : **3.10⁻⁴ mbar**



6. Thickness Monitor parameters

6.1. Material density : **TO BE MODIFIED** according material

6.2. Average acoustic impedance for all materials : **TO BE CHECKED** (8.830 g.cm⁻².s⁻¹)

6.3. Tooling Factor : **TO BE ADJUSTED** according source number and evaporation material.



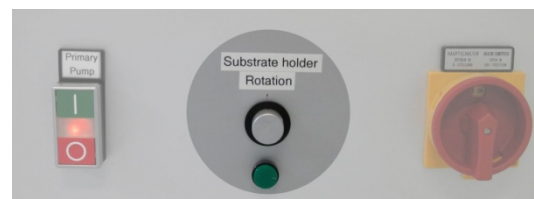
7. Notebook

7.1. Fill in all information about your run

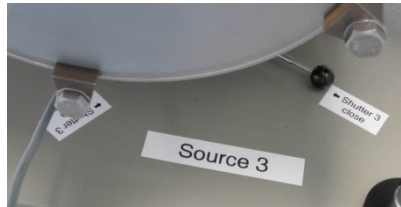
8. Evaporation

8.1. Substrate holder

- Rotation **ON** : **Press** the green button (→ green light : OK)
- Speed : Increase speed slowly (3 turns)



8.2. Shutter : **CLOSED**



8.3. Source selector : **Source number**



8.4. Current generator : Switch to "LT"



8.5. Current generator : Increase the current **SLOWLY** till deposition rate is reached

8.6. Shutter : **OPEN**

8.7. Thickness Monitor : **pushbutton** START



9. End of deposition

9.1. Shutter : **CLOSED**

9.2. Current generator : Decrease the current **SLOWLY**

9.3. Current generator : Switch to **OFF "0"**

9.4. Substrate holder

- Speed : Decrease speed slowly (3 turns)
- Rotation **OFF** : **Press** the green button (→ light off : OK)

9.5. **Cooling down : WAIT 10 min**

10. Venting

- See paragraph 3

11. Unloading

11.1. Unload wafers

11.2. Boats: **TO BE REMOVED**

11.3. Load **DUMMY WAFERS**

11.4. Aluminum foil : **TO BE PUT BACK**

12. Pumping

- See paragraph 5

13. Logout

13.1. ACCESS CONTROL SYSTEM : Logout from the VACO 250

- LIGHT on the VACO 250 : **GREEN** → **RED**: OK

