

GENERAL PROCESS AND OPERATION SPECIFICATION

Hot Plate Vacuum Chamber

I. SCOPE

- a. The purpose of this document is to describe requirements and basic operating instructions for the Hot Plate Vacuum Chamber. This tool is intended for annealing and drying process under low vacuum and temperature. The equipment is supplied with air for venting. The upper temperature limit of this tool is 250°C.

II. SAFETY

- a. Be sure that you are trained and signed off to use this equipment.
- b. Use care when operating around hot surfaces.

III. APPLICABLE DOCUMENTS, MATERIALS AND REQUIREMENTS

- a. Appendix A: Tool Specs

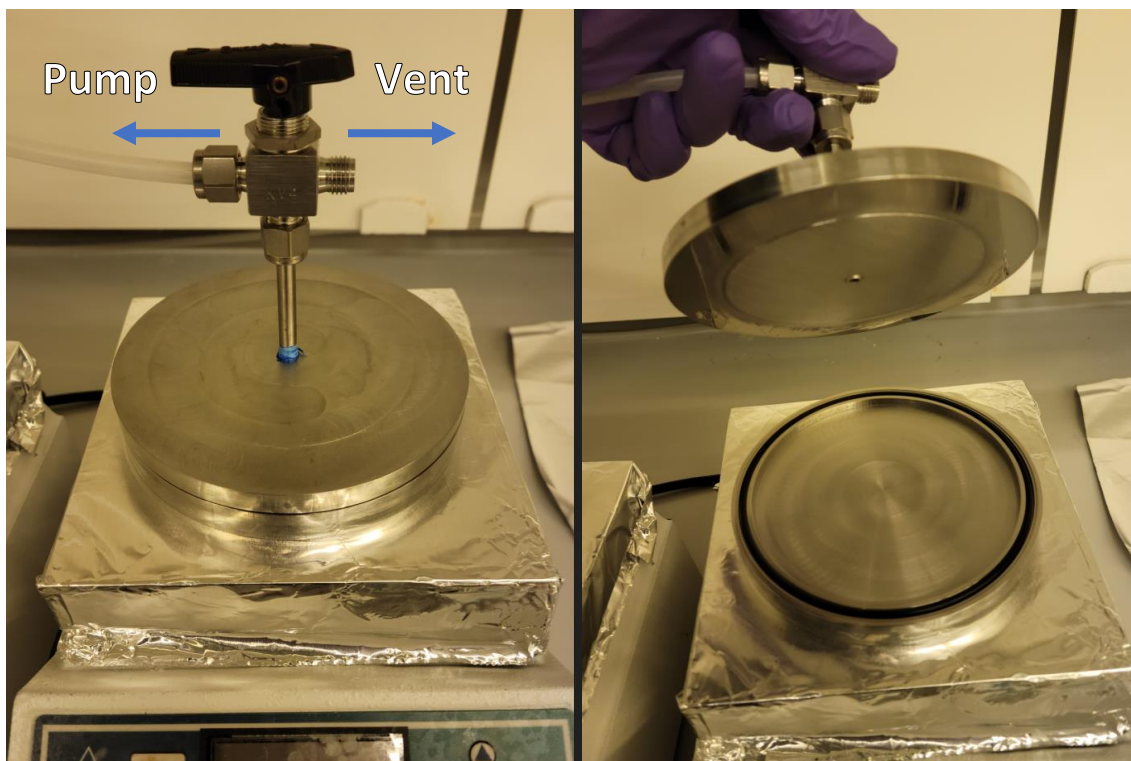
IV. OPERATION

a. Vacuum operation

- i. If the chamber is under vacuum, turn the three-way valve to Vent (disconnected side). This will vent the chamber with air.
- ii. Open the lid and place it on a cleanroom wiper. Protect the surface where the vacuum seal is made.
- iii. Place your sample in the chamber.
- iv. Replace the lid and center it with respect to the bottom piece.
- v. Turn on the vacuum pump
- vi. Keeping your fingers and objects away from the rim (esp. b/w lid and chamber), turn the three-way valve to Pump. It only takes a few seconds to reach the base pressure of 200 torr.

b. Hot plate operation

- i. Set the hot plate to the desired temperature. Use the ramp function where possible.
- ii. Once the desired temperature is reached, time the annealing/drying. The temperature can be separately measured using a laser probe (can be checked out upon request).
- iii. When finished, turn off the hot plate and wait until it is safe to handle the three-way valve.
- iv. Vent the chamber and remove the sample.



Hot Plate Vacuum Chamber Standard Operation Procedures

V. SIGNATURES AND REVISION HISTORY

- a. Author of this document: Jung Hwan Woo
- b. Author Title or Role: Research Engineer
- c. Date: January 14, 2022
- d. Revision: Updated automatic recipe instructions. General clarity revisions.

Approvals:

Technical Manager Signature: ___Sandra Malhotra_____

Date: _1/18/2022_____

Revision History:

Revision	Author	Date
Original Issue	J. Woo	January 14, 2022
Rev A		
Rev B		
Rev C		
Rev D		
Rev E		

Appendix A: Tool Specs

4-Inch Hot Plate Vacuum Chamber Specifications

- Maximum wafer size: 4" diameter
- Temperature range: $\leq 250^{\circ}\text{C}$
- Pressure range: 1 atm to 200 torr with a small vacuum pump (installed)