

Preparation & Loading



1. Verify cryopump temperature less than 15K on CTI temperature indicator.



2. Verify pressure control valve is in OPEN position.

3. Close hi-vac valve (v3, Fig. 1)

4. Vent chamber (v4, Fig. 1)

5. Raise chamber lid (toggle switch A, Fig. 2)

6. Load substrate(s).

Notes: Use adapters if necessary. See "How to Load Wafers"



Fig. 1. Automatic Valve Control Panel



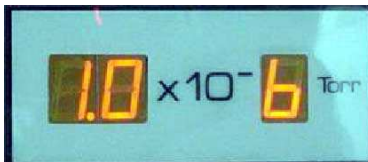
Fig. 2. Chamber and Gas Control Panel

Pump Down Procedure

1. Close chamber lid. (A, Fig. 2)
2. Verify hi-vac valve is closed (v3, Fig. 1)
3. Open roughing valve (v1, Fig. 1)
4. Allow pressure to reach 0.050 torr. (Gauge located on Automatic Valve Control panel.)
5. Close roughing valve (v1, Fig. 1)
6. Close hi-vac valve (v3, Fig. 1)
7. Turn ion gauge ON. Located at top of Control Rack



Ion Gauge Controller



Note: If ion gauge does not turn on immediately, wait two minutes and try again.

8. Allow pressure to reach 5.0×10^{-6} torr (ion gauge).

9. Record Pressure in Log Book.



Chamber & Foreline Pressure

1. Turn off ion gauge.
2. Close Pressure Control Valve
3. Turn on argon gas (Channel 1) at Gas Flow Control Box.



4. Open gas inlet toggle valve (B, Fig. 2)
5. Record argon gas flow rate in Log Book
6. Turn Pirani gauge to 10-scale and record pressure in Log Book.



11. When process time expires, turn down DC power knob, and turn off Motor Speed Control.
12. Turn off argon gas flow (Channel 1) at Gas Flow Control Box
13. Turn Pirani gauge OFF.
14. Close gas toggle valve.
15. Open Pressure Control Valve
16. Turn on ion gauge and allow chamber to pump into the 10-6 torr range as indicated by ion gauge.

7. Turn on DC Power Supply K47. Adjust current to required level.



8. Once plasma has stabilized, turn Motor Speed Control ON (substrate rotation).

9. Start process timer.



10. Record required data in Log Book

Unloading

1. Close hi-vac valve (V3, Fig. 1).
2. Wait for V3 to close completely, then turn open vent valve (V4, Fig. 1)
3. Allow chamber to reach atmosphere.
Note: If foreline pressure increases when venting, call lab manager.
4. Raise chamber lid.
Note: If chamber does not open, call lab manager.
5. Unload substrate(s).
6. Follow Pump Down Procedure (steps 1-6) to leave the chamber under vacuum when not in use.



1. Open chamber lid. Note: Chamber cover raises.



2. Handle wafers with clean tweezers and determine the mirror-side of the wafer(s).



Mirror side of wafer (note reflection)



Hazy side of wafer (no reflection)

3. Load wafer(s) with the mirror side facing down in the 4-inch substrate holder(s).



Place wafers in substrate holders mirror-side down.



Wafer in substrate holder. Mirror-side facing down

Note: For 3-inch wafer(s) use a substrate adaptor and load as shown below.



3-inch substrate adaptors.



Wafer placement with 3-inch substrate adaptor.