Typical Operating Procedure

- 1. Sign name and date in logbook.
- 2. Switch on main power. [Fig 1a]
- 3. Switch on process control module power. [Fig 1b]
- 4. Press RESET button. [Fig 2]
- 5. Unlatch and open chamber door. [Fig 3]
- 6. Place samples on glass slides on center shelf. [Fig 4]
- 7. Close and latch chamber door.
- 8. Open gas valve(s) at tank(s).

Note: Not much gas flow required. Open valve 1-turn.

- 9. Turn on gas flow switch(es). [Fig 5a]
- 10. Wait ~4 min for orange ready indicator to light. [Fig 5b]
- 11. Switch on RF POWER [Fig 6a] and RF POWER to REFL. [Fig 6b]
- 12. Set process time to 3.0 min (typical). [Fig 7]
- 13. Push START to begin process cycle. [Fig 2]

Note: System will pump to ~0.35 Torr (20 on scale).

Note: Slight improvement will be seen beyond 2min.

- 14. Record base pressure in logbook.
- 15. Push CYCLE button [Fig 2]. Gas will begin to flow.

Note: Flow rate is low; gauge will be near bottom (~5sccm). **Note**: RF plasma ignites within 6-7 sec (note glow in chamber). System may initially show REFL power but should auto-tune in ~2-3 sec bringing REFL power to or near zero.

Note: IF REFLECTED POWER STAYS HIGH PRESS ABORT BUTTON. GAS FLOW MAY BE TOO HIGH. IF SO DECREASE FLOW AND BEGIN PROCESS AGAIN. CONTACT LAB MANAGER FOR OTHER PROBLEMS.

- 16. Switch to FWD power (200 typical). [Fig 6b]
- 17. Record FWD power in logbook.
- 18. Switch to REFL power. [Fig 6b] Make sure it is ok.
- 19. Record gas(es) used and operating pressure in logbook.
- 20. When process time expires, an alarm will sound.
- 21. Push RESET button [Fig 2] to silence alarm.

Note: System will automatically vent.

22. Unlatch chamber door (OPEN [Fig 3]) then open when chamber is fully vented and remove samples with gloved hands and clean tweezers.

Note: AT END OF RUN clean chamber shelves, swab inside with methanol and soaked cleanroom wipe.

Shutdown Procedure

- 1. Close chamber door and latch securely.
- 2. Press START button. [Fig 2]
- 3. Turn off gas flow switch(es). [Fig 5a]
- 4. Close gas valve(s) at source.
- 5. After 2 min switch off main power [Fig 1a] and process control power [Fig 1b].

Note: It is good practice to always leave a vacuum system under vacuum when not in use for extended periods of time.





(b) **Fig 1**



Fig 2





Fig



Fig 4

Fig 5





(b)

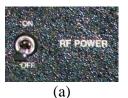




Fig 6



Fig /



The University