

# Operating Instruction

## SBT PC-2000

### Plasma Cleaner

NOTE: This device is intended to clean hydrocarbon contamination from TEM sample rods and samples. It can be used to clean other substrates and tools but should not be used as a general oxygen plasma asher.

1. **MAIN POWER** On
2. Open gas supply regulators (Ar, O<sub>2</sub> as required)
3. Crack open water cooling lines (just a little flow is needed)
4. **VENT** chamber
5. Remove port plug and insert sample rod (or other substrate to be cleaned)
6. Close system and **PUMP**
7. Wait for vacuum gauge to read ~75mTorr
8. Push **GAS 1** Button (Ar) and adjust needle valve to 150-200mTorr
9. Push **GAS 2** Button (O<sub>2</sub>) if mixed gasses are required (set mixing ratio)
10. Make sure Vacuum is reestablished at 150-200mTorr
11. Set **PROCESS TIME** set with blue buttons (5-15min or so)
12. **FORWARD POWER** knob CCW and then CW ~1/4 turn
13. Press **RF POWER** switch
14. Adjust **REFLECTED POWER TUNE** until plasma ignites (~1/2 turn CW or CCW)
15. Readjust the **REFLECTED POWER TUNE** knob to get lowest value (~1-3) and the highest **DC BIAS** value
16. Increase **FORWARD POWER** to ~10-40 Watts
17. If **REFLECTED POWER** changes readjust **TUNE** control
18. Wait for process time to complete
  
19. Push **GAS1** (and **GAS 2**) buttons to turn off gas supply
20. Push **PUMP** button to turn off vacuum pump
21. Push **VENT** button
22. Remove sample rod or substrate from chamber
23. Insert port plug (if required)
  
24. Push **PUMP** button to reestablish vacuum in chamber
25. Push **PUMP** button again to turn off vacuum pump
26. Push **MAIN POWER** button to turn off unit
27. Turn off water supply valves
28. Turn off gas supply regulators

NOTE: Usually a 5-15minute Ar plasma etch followed by a 5min O<sub>2</sub> plasma etch is sufficient..