

## Instruction Manual for Anatech SP 100 Plasma Asher

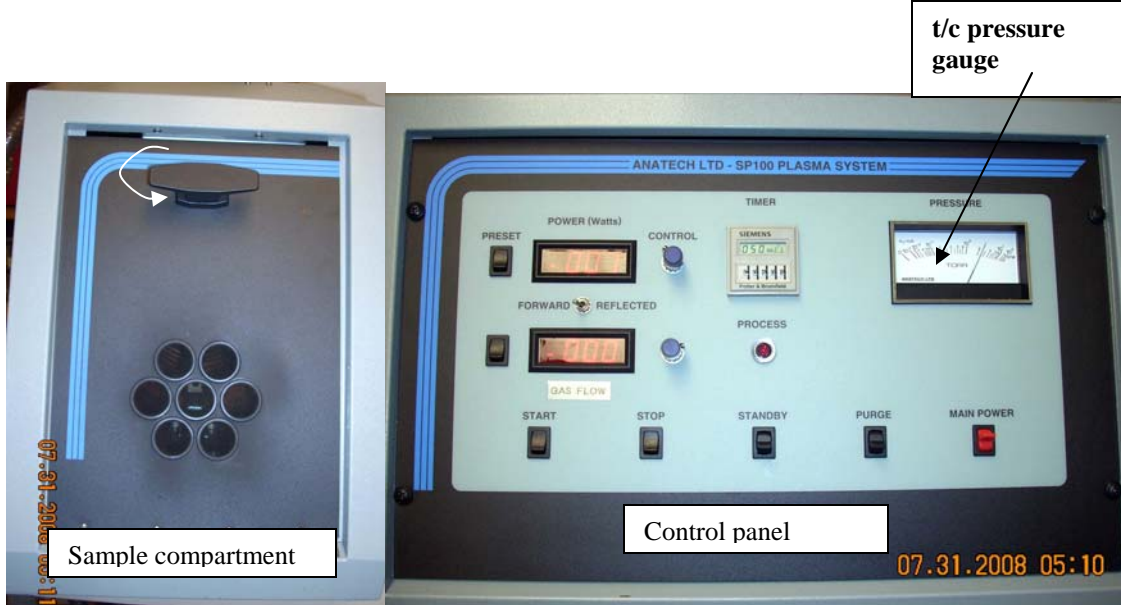


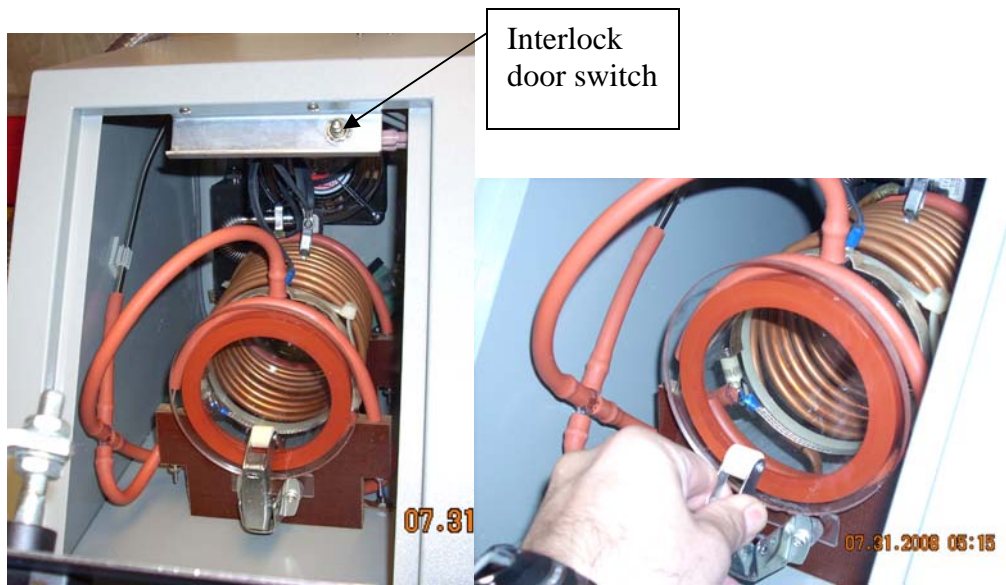
Figure 1. Front view of the Plasma Asher

*Turn on the main power by placing the red power switch in the UP position.*

**Note to obtain consistent results it is best to run a standard plasma ash at .5 torr O<sub>2</sub> with no sample for 100 watts for 5 min**

### I. LOADING THE ASHER

1. To begin with open the sample compartment door by turning the handle CC and open out and down
2. This reveals the quartz chamber with glass door within



**Figure 2. Quartz chamber which hold the wafers for ashing**

3. With one hand open the spring load clam holding the glass door
  - a. Make sure the chamber is vented as observed on the T/C gauge
    - i. place **purge** switch to the up position to vent to atmosphere
4. Remove the glass door and load the sample
  - a. The red rubber gasket may come off just push back on
5. Replace door and release spring clamp to hold door in place
6. Close the front door and turn the handle clock wise closing the interlock
  - a. If the interlock door close is not engage the system will not work
7. At this point you should turn on the vacuum pump.
  - a. Let pump warm up for 5 minutes or so.

## II. SETTING THE PARAMETERS

1. RF power **(250 Watts MAX!!!)**
  - a. Hold down the **preset** for the RF power and turn the knob CW until the power in watts you require is displayed.
2. O<sub>2</sub> flow

- a. Hold down the **preset** button for the O<sub>2</sub> flow and turn the knob CW to increase or CC to decrease O<sub>2</sub> flow.
  - i. 10 sccm is 0.4-0.5 torr
3. Set the **timer** to the desired level. Pay attention to units: sec or min.

### III. RUN THE PROCESS

After you have entered your process set points and closed the door, ensure the pump is one and

1. Press **START button**
2. When the system goes to 0.1 torr you will here a faint click ( process begin interlock)
3. At this time you will see gas begin to flow and the pressure on the TC gauge will increase to the SP
  - a. There is a 30-40 sec. delay for press to equilibrate.
4. After the delay the RF power comes on
  - a. Check the reflected power to make sure it is <10 watts .
  - b. If not adjust the matching network to minimize
5. At this point the counter will begin to count down
6. After the process is complete the chamber will self purge
7. When you here a beep open the chamber to remove you sample
  - a. Or you can wait until the O<sub>2</sub> flow goes to zero
8. Close chamber and then press **standby** button to up position to evacuate system
9. When the pressure goes to 0.1 torr **shut down stand by button**
  - a. **Warning It is important to shut standby or else the system will keep pumping causing back streaming and contaminate the chamber with oil !!!!**
10. **turn off vacuum pump!!**

11. system power
  - a. if you keep the system running the system will stay at vacuum if you shut down the system power button it will self vent to atmosphere