

Nanobiotechnology Center

UV Ozone Stripper/Cleaner Samco Model UV-1

Serial #

Operating Instructions

VERSION: June 17, 2004

For more information on process parameters see MRS reprint at the end of these instructions.

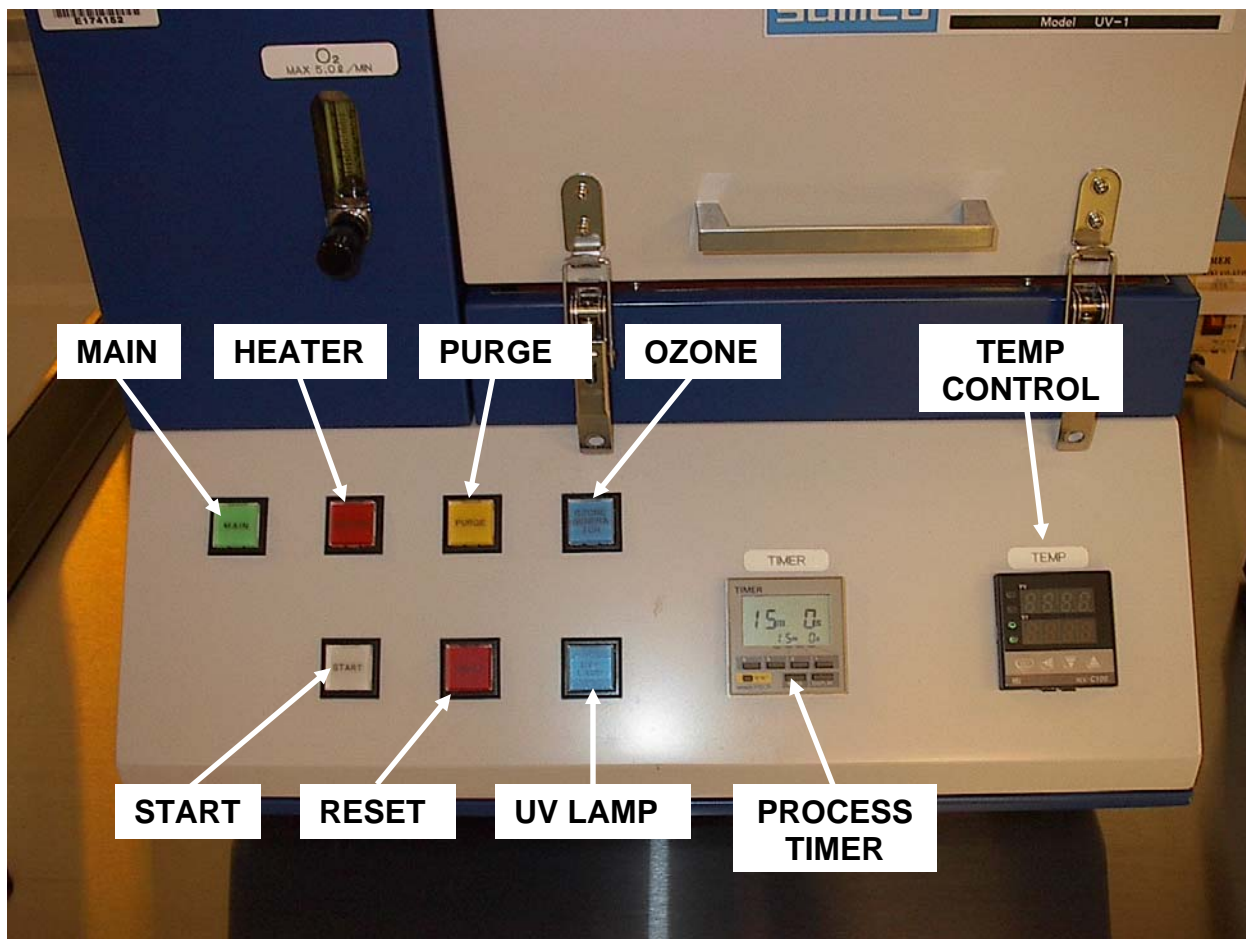
1. This system is interlocked.
 - a. You must first log in on the computer sign-up in the main process area before working with the system.
 - b. Then sign in the LOG BOOK located near the instrument. It's quick and helps us keep the system at optimum (very important).

2. Substrate Loading

CAUTION: DO NOT LOAD OBJECTS THICKER THAN 10MM.

- a. Raise front shield on exhaust hood - for easier loading.
 - b. Undo latches on reactor lid, open reactor lid to full extent to engage support rod.
 - c. Load substrate(s) onto platen.
 - d. Close reactor lid by lifting slightly and then disengaging support rod.
 - e. Secure reactor lid with both latches.
 - f. Close front shield on exhaust hood.
3. Press **MAIN** power on switch on left of operation panel.
 - a. Switch will light **green**.
 - b. **RESET** switch will light **red**.
4. Press **OZONE GENERATOR** switch to select this option.
 - a. Switch will light **blue**.
5. Press **UV LAMP** switch to select this option.
 - a. Switch will light **blue**.

UV/Ozone Control Panel



6. If using the substrate heater press **HEATER** switch.
 - a. Switch will light **red**.
 - b. On temperature controller upper display (green) shows measured platen temperature.
 - c. Lower display (orange) shows set point temperature.
 - d. Press **SET** on temperature controller.
 - e. Adjust set point temperature using up/down buttons – digit to be adjusted can be select with left facing arrow button.
 - f. Press **SET** to confirm set point temperature.
 - g. NOTE for high temperature setting it can take up to 20 minutes to heat and stabilize the platen (see additional info at the end of these operating instructions).

7. Set oxygen flow rate.
 - a. Confirm that reactor lid is closed and latched.

- b. Set process timer to 1 minute by pressing the increment key under the relevant digit.
- c. Press **START** – switch will light **white**. **RESET** light will go out. Oxygen solenoid valve will open.
- d. Adjust flow rate to desired level – up to a maximum of 5.0l/min.
- e. When process ends oxygen valve will close.
- f. Automatic 3-minute nitrogen purge will start – **PURGE** indicator will light **yellow**.

8. Process Substrates

- a. Set process timer by pressing the increment key under the relevant digit.
- b. Press **START** – switch will light **white**. **RESET** light will go out. Oxygen solenoid valve will open.
- c. When process ends oxygen valve will close.
- d. Automatic 3-minute nitrogen purge will start – **PURGE** indicator will light **yellow**.
- e. When **PURGE** light goes off, undo latches, open reactor lid, remove substrate(s).
- f. Close reactor lid and secure latches.

CAUTION: IF HEATER WAS USED SUBSTRATES WILL BE HOT.

9. Finish Use

- a. Disengage any options used by pressing relevant button - **OZONE GENERATOR, UV LAMP, HEATER**.
- b. Press **MAIN** power switch to turn power off.
- c. Complete any logbook entries.
- d. Logout from tool on computer.

10. Process Abort

- a. If it is necessary to stop the process at any time press the **RESET** button.
- b. You must immediately press the **PURGE** switch to perform a manual nitrogen purge of the reactor chamber.

WARNING: DO NOT OPEN REACTOR LID UNTIL A PURGE OF AT LEAST 3 MINUTES HAS BEEN PERFORMED.

- c. After 3 minutes press **PURGE** switch to end the manual purge process.
- d. You can now unload the reactor, or make other corrections to your process parameters.

Applications

1. Removing organic contamination or residues.
2. Cleaning or stripping photoresist, inks or polyimide from substrates.
3. Pre-clean wafers prior to deposition.
4. Descumming photoresist and polyimide.
5. Modifying surfaces for better adhesion.
6. Improving lube coverage on magnetic discs.
7. UV curing.
8. Growing thin stable oxide films on silicon and gallium arsenide.