

University of Minnesota Nano Center

Exhausted Blue M Oven-Standard Operating Procedure

Badger Name: n/a

Model: 008A-3-26

Location: Keller-Bay 2

Revision: 3

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1. Scope

1.1. This document provides detailed instructions on how to properly operate the Exhausted Blue M Oven.

2. Tool description

2.1. This is an exhausted oven with a controllable N₂ flow gauge. The temperature may be adjusted up to 500°F (260 °C), the N₂ flow rate can be adjusted between 0 - 60 SCFH. There is a center rack for placing substrates.



Figure 1 The ovens in Keller Hall-Bay 2.

3. Safety

3.1. Maximum temperature is 500°F (260 °C).

3.2. Take caution when unloading your hot substrates when the bake time is complete.

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3.3. Turn the oven power OFF when completed.

3.4. Turn off the N2 flow gauge flip toggle that is connected to the red N2 gas line when complete.

4. Restrictions

4.1. No aluminum foil in oven.

4.2. Wafers may have material on the surface that could out gas fumes such as photoresist.

This oven is exhausted.

5. Tools and Equipment

5.1. Electrical outlet

5.2. Nitrogen

6. Procedure

6.1. Setup

6.1.1. Place substrates in the quartz boats provided.

6.1.2. Users must supply their own method of timing the length of bake.

6.1.3. Turn the **MAIN CONTROL** oven toggle switch to **ON**. This is located on the front panel of the oven.

6.1.4. Turn the black **MEMORY RING DIAL** to the desired temperature. This dial is labeled **CONTROL**.

6.2. Operating Instructions

6.2.1. Open the door and place substrates in the oven on the rack and close the door.

6.2.2. Turn on the Nitrogen by flipping the toggle switch on the red gas line.

6.2.3. Switch sign to **IN USE DO NOT OPEN**.

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- 6.2.4. Set the N₂ flow rate by turning the black dial on the **SCFH** (standard cubic feet per hour) **AIR** flow meter to the desired PSI.
- 6.2.5. Check the temperature on the **FARENHEIGHT/CENTIRGRADE** read out and the N₂ flow rate periodically throughout you process.
- 6.2.6. When the process is complete, turn the N₂ flow to zero and flip the toggle to the OFF position.
- 6.2.7. Turn the oven **MAIN POWER** switch to **OFF**.

7. Problems/Troubleshooting

- 7.1. If the temperature is not responding to the set parameter, notify MNC staff.
- 7.2. If no nitrogen is flowing on the N₂ flow gauge after turning it to the desired PSGI, notify MNC staff.