User’s Guide

THE CENTER FOR NANOSCIENCE AND NANOTECHNOLOGY

PECVD
## Initial steps

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Log in to control program</td>
</tr>
<tr>
<td>2</td>
<td><strong>If the AUTOMATIC PROCESS COMPLETED window is on the screen,</strong>&lt;br&gt;Press <em>OK</em> button&lt;br&gt;Immediately press <em>ABORT</em> to change the system status from <em>READY</em> to <em>STANDBY</em></td>
</tr>
<tr>
<td>3</td>
<td><strong>If the AUTOMATIC PROCESS COMPLETED window is NOT on the screen,</strong>&lt;br&gt;Make sure the <em>CATHODE</em> temperature is 50°C before venting the chamber</td>
</tr>
<tr>
<td>4</td>
<td><strong>If the CATHODE is hot and the system at the READY mode</strong>&lt;br&gt;Press <em>ABORT</em> to change the system status from <em>READY</em> to <em>STANDBY</em></td>
</tr>
<tr>
<td>5</td>
<td><strong>If the CATHODE is hot and the system at the STANDBY mode,</strong>&lt;br&gt;Wait until it cools to 50°C</td>
</tr>
</tbody>
</table>
## Inserting Samples

<table>
<thead>
<tr>
<th></th>
<th>To vent the chamber</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.</td>
<td>Click the <strong>UTILITIES</strong> menu and click <strong>VENT</strong></td>
</tr>
<tr>
<td>7.</td>
<td>Wait until the chamber reaches atmospheric pressure</td>
</tr>
<tr>
<td>8.</td>
<td><strong>Open the chamber</strong></td>
</tr>
<tr>
<td></td>
<td>You will have to move the cables slightly to the right</td>
</tr>
<tr>
<td></td>
<td>If the lid does not support its own weight, you will have to hold it up</td>
</tr>
</tbody>
</table>
## Inserting Samples

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.</td>
<td><strong>Place wafers/dies on cathode</strong> &lt;br&gt;For wafers, it is best to wiggle them slightly until friction is felt to remove air film underneath</td>
</tr>
<tr>
<td>10.</td>
<td><strong>Close the lid</strong> &lt;br&gt;Click the <em>UTILITIES</em> menu and click <em>PUMP</em></td>
</tr>
<tr>
<td>11.</td>
<td><strong>Wait until screen reads</strong> &lt;br&gt;<em>PUMPING WITH LOVAC PUMP</em></td>
</tr>
<tr>
<td>12.</td>
<td><strong>Click the <em>PROCESS</em> menu and click <em>LOAD</em></strong></td>
</tr>
</tbody>
</table>
### Load & Run Existing Recipes

<table>
<thead>
<tr>
<th>Step</th>
<th>Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>13.</td>
<td>Select desired process from the list. Click OK. The process name will appear in the <em>PROCESS</em> window.</td>
</tr>
<tr>
<td>14.</td>
<td>Press the READY button and then the RUN button.</td>
</tr>
<tr>
<td>15.</td>
<td>It will take about 20 minutes for the cathode to reach the process temperature. You must be present for the entire process until the <em>COOL DOWN</em> step.</td>
</tr>
<tr>
<td>16.</td>
<td>If there is a warning during the process (e.g. cathode temperature is out of range), press <em>HOLD</em> button to continue.</td>
</tr>
</tbody>
</table>
# Extracting Sample(s)

<table>
<thead>
<tr>
<th>Step</th>
<th>Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>17.</td>
<td>Cool down will take about 3 1/2 hours</td>
</tr>
</tbody>
</table>
| 18.  | When the process has completed  
      Press *OK* button  
      Immediately press *ABORT* to change the system status from *READY* to *STANDBY* |
| 19.  | Make sure the *CATHODE* temperature is 50°C  
      Open the chamber and extract samples(s) |
| 20.  | Close the lid  
      Click the *UTILITIES* menu and click *PUMP* |
<table>
<thead>
<tr>
<th>Step</th>
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</thead>
<tbody>
<tr>
<td>21.</td>
<td>Click the <strong>PROCESS</strong> menu and click <strong>LOAD</strong></td>
</tr>
<tr>
<td>22.</td>
<td>Select the <strong>CLEAN</strong> process</td>
</tr>
<tr>
<td></td>
<td>Press <strong>OK</strong></td>
</tr>
<tr>
<td>23.</td>
<td>Wait until screen reads <strong>PUMPING WITH LOVAC PUMP</strong></td>
</tr>
<tr>
<td>24.</td>
<td>Press the READY button and then the RUN button</td>
</tr>
<tr>
<td>25.</td>
<td>Log off control program</td>
</tr>
<tr>
<td>Step</td>
<td>Description</td>
</tr>
<tr>
<td>------</td>
<td>-------------</td>
</tr>
<tr>
<td>26.</td>
<td>Click the <em>PROCESS</em> menu and click <em>EDIT</em></td>
</tr>
<tr>
<td>27.</td>
<td>Select the desired process from the list. Change appropriate parameters. Press the SAVE button.</td>
</tr>
<tr>
<td>28.</td>
<td>SAVE UNDER A DIFFERENT NAME. Reload the new recipe.</td>
</tr>
<tr>
<td>29.</td>
<td>DO NOT EDIT EXISTING RECIPES</td>
</tr>
</tbody>
</table>

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<thead>
<tr>
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<th>Aborting Process</th>
</tr>
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</table>
| **30.** | You may partially skip the cooling step.  
You must wait for the temperature to drop below 100°C before you are permitted to do so |
<p>| <strong>31.</strong> | Press END STEP button |
| <strong>32.</strong> | Wait for the pump down step to finish |</p>
<table>
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</table>
| **33.** | Press OK  
To acknowledge that the process is finished |
| **34.** | Click *ABORT* twice |