EVG 150 - Automatic Resist Processing Cluster
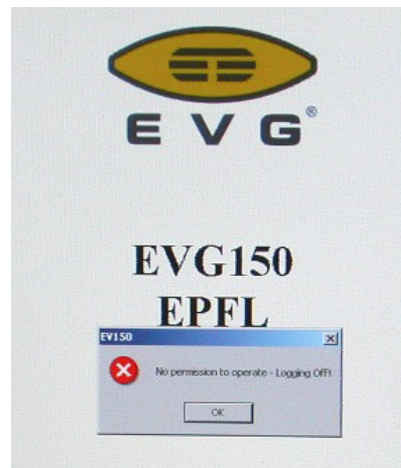
Operation

 Pump configuration:
Cybor#1 = AZ1512
Cybor#2 = AZ 10XT-60
Syringe = According to Today's booking request

1) Login on the CAE terminal

Login is required to use the system. If system is not enabled, error message will show on display.

2) Login on equipment

- Click on the "Login Here" button (bottom left corner of main window)
- General user access parameters: ID=0000; PW=0000
- After successful login the following sections will appear on display: Recipes, Jobs, Pumps, Tanks, Low IO Terminal.

3) Chose one application library

Several application databases are stored in the system. Each file is a unique set of recipes for use with a specific configuration and resist type. Databases are optimized for a specific photoresist type and substrate type combination. Thicknesses can be chosen within these databases.

Use the "Open" window from the top menu of the software, and start from the folder
Application library directory tree start at C:/...EVG /EVG150/Recipe

 For transparent wafers without any deposited layer use a "Glass Only"

- Verify the name of library in the top title bar
- Library under Recipes (Standard library) are write protected

 As long as the same database is selected, coating and development can be run in parallel.

- Recipes/Users level is free for read/write . Please create your own folder at this level for backup or modified recipes.

4) Verify your recipe

The Recipes tab shows the actual recipes database with the complete hierarchy. Station recipes are grouped under corresponding station names in subfolders. The user executable recipes are at the top level (bottom of hierarchy tree).

Hierarchical tree:

- Subprograms are in subfolders categorized by stations. These are called from the main programs by links.
- Master recipes are executable (listed at bottom) describe the process flow for a wafer.

Sub-programs list step by step parameters related to an individual station.

Example of master recipe

5) Check for liquid levels

Chemicals can be monitored using the "Pumps" and "Tanks" tabs. If a low level is reached, the recipe will not run and the process will be stopped.

- A **warning** message window superpose on all tab screens at 5% level.
- An **alarm** shows at 0% level and will stop processes.

Note: the machine levels are verified on a daily basis. If levels are low, notify staff before proceeding.
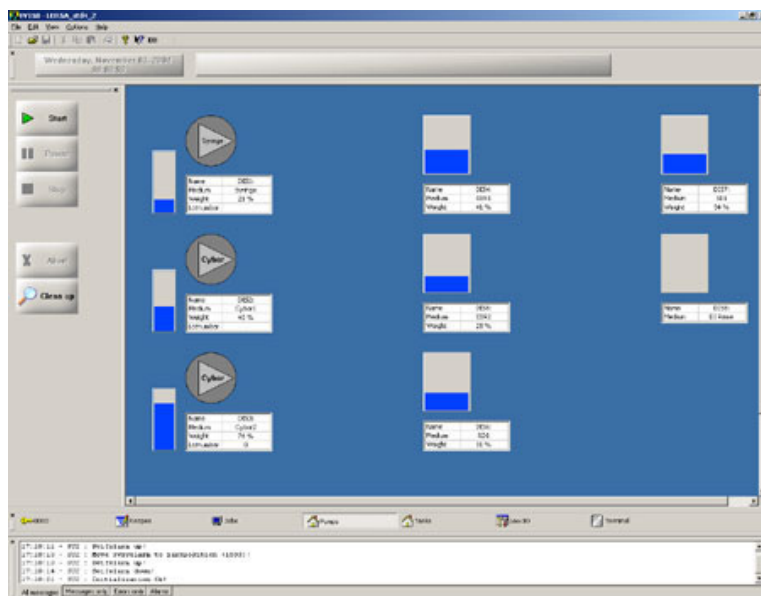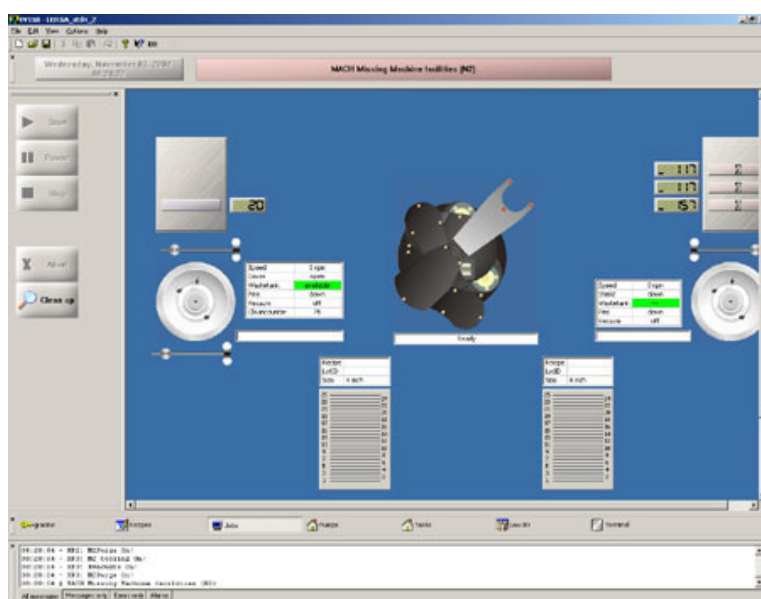
6) Check for errors

Schematic under "Job" screen is shown on right.

- Click with the left mouse button on each station to get a user menu
- Status bar at top will turn red and indicate possible error conditions. Clicking on this bar with the mouse might clear the problem in some simple cases.
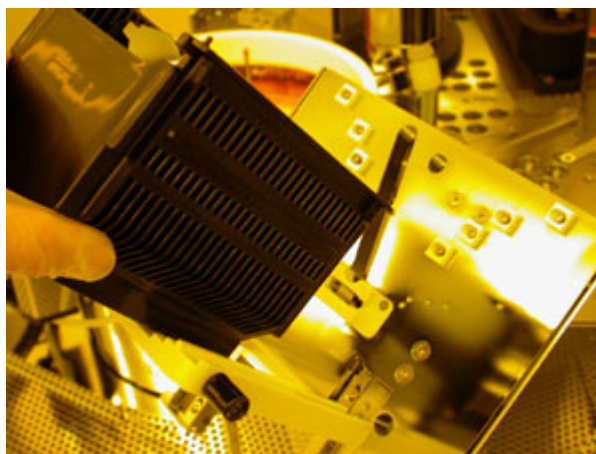
Terminal window (bottom) shows history of all high level user communication.

7) Start Batch Run

Load cassette on left dock station for coating (cassette 1) or right dock station for developing (cassette 2)

- If necessary, tilt the station by right clicking on the corresponing cassette and select "Tilt cassette"
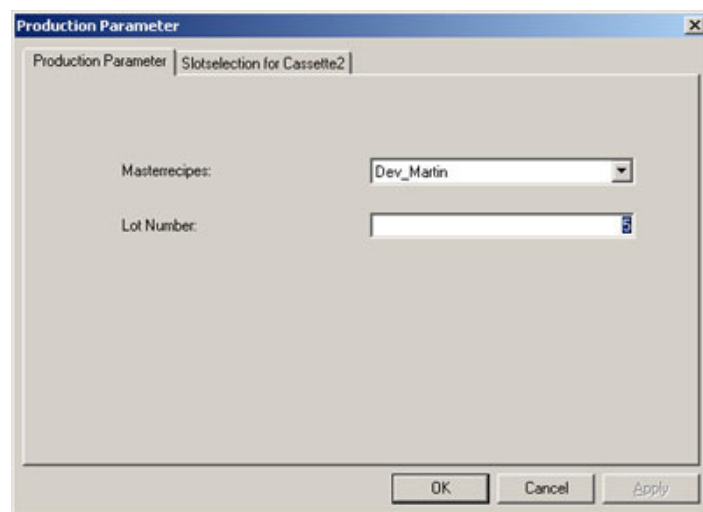- Center the wafer carrier sliding down the cassette

8) Turn production mode on

- Press "Start" on the top left of display
  (yellow light will be turned on).
- Short initialization follows
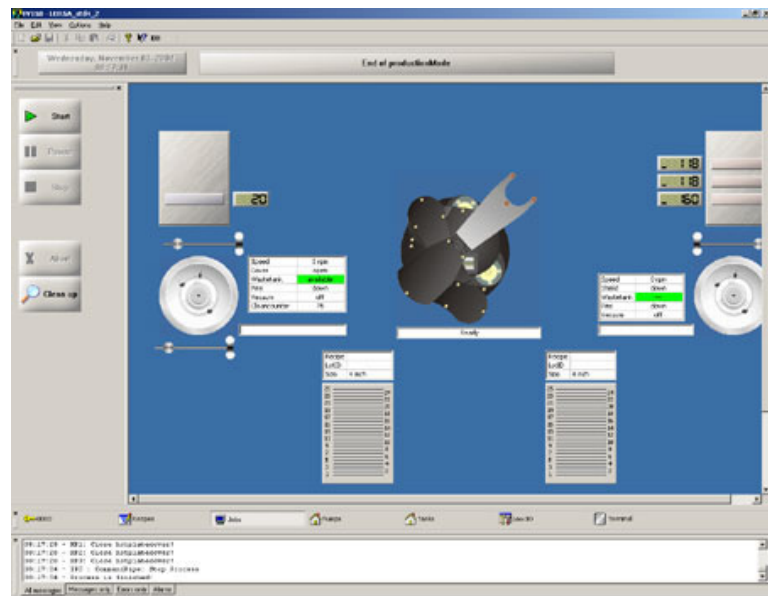
- Status bar will change to "Load a cassette" when system is ready. Right click on cassette to get the load menu.
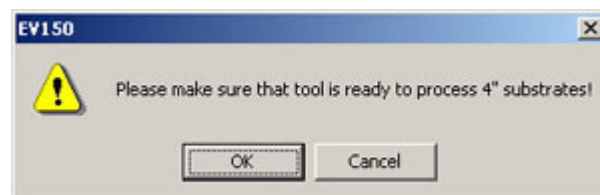- First, choose your master recipe to run.

· Second, choose slots to be processed on the second tab.

Critical level for resist dispense is updated according to the number of wafers to be processed.
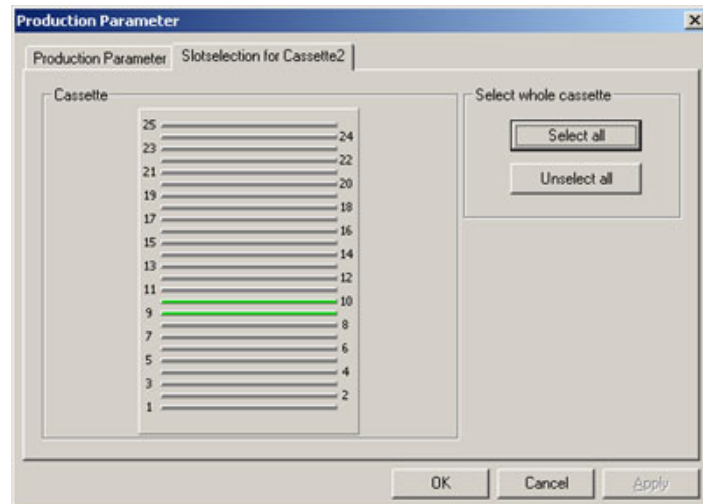
System ask a confirmation of wafersize. This message can be aknowledge. Press "OK"

(historically small size adaptors needs to be checked)

9) Atomatic processing is started

- Hotplates temperature
  adjustment will start if
  necessary
- Check of available liquids
- Automatic dispense nozzle
  purge
- Colors for slots are:
  Yellow = Waiting for process
  Red = In process
  Green = Process is finished
  Light blue = Wafer handling
  failure.
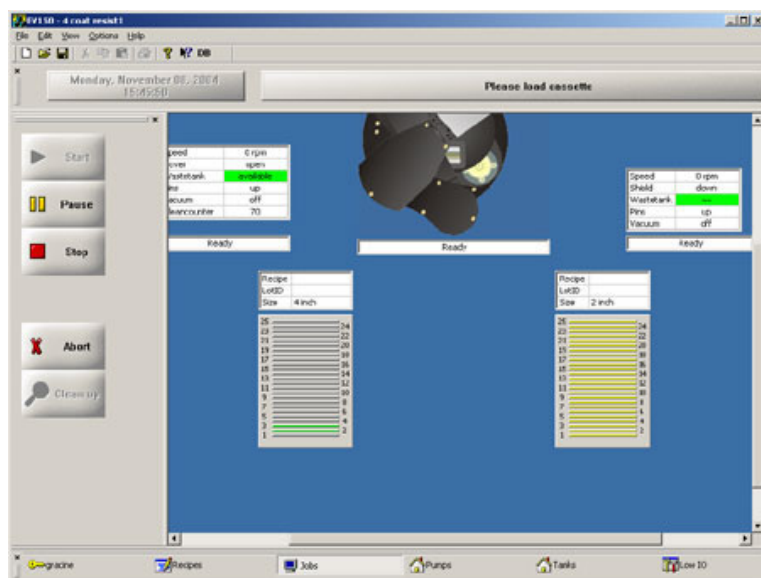
It is possible to interrupt the process if necessary:

The **Pause** and **Stop** buttons will pause or stop the main wafer flow in a safe way (recommended).

- Pause will stop loading wafers untill start is pressed again.
- Stop will stop loading. Resume of current batch is not possible after that.

In both case wafers inside the tool will be processed to the end of current recipe.

Abort button will cause immediate abort of all current process in all station without possibility to restart (not recommended).
After aborting, a "Clean-up" is necessary to continue.

DO NOT PRESS ABORT WHEN A WAFER IS ON THE ROBOT ARM OR ON THE PRE-ALIGNER UNIT. THIS CAN CAUSE DAMAGE TO THE ROBOT.

Wait until the wafer is loaded into a station (coater, developer, HP, or CP) before clicking "Abort" if it is really necessary to abort the process. **Note that restarting the tool with a clean-up after "Abort" will cost more time than using "Stop". In many case clean-up fails after aborting. Thus tool will be locked and only staff member can reset and clean for errors.**

In case of a prealignment error:

an error message with "RETRY" as option is proposed. BE CAREFUL, make sure the station is clean; otherwise a collision will happen with the next wafer. Remove manually the wafer from the alignment station before trying to continue.

Handling error or restart after "stop". In case a system clean-up is required with the help of the staff (robot mode need to be changed before and after cleaning in supervisor). Pay attention for each step and answer correctly to the questions asked by the system.
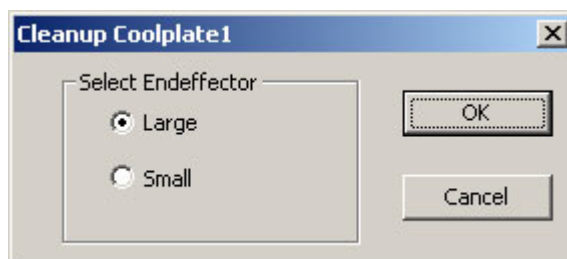
Load an empty cassette to proceed, and select always
Large Endeffector = 100 and 150mm wafer
(Small Endeffector = not installed)

10) Batch is finished

- Main status bar turns green and cassete tilts for unloading
- A new batch can be started from an idle cassette any time (simultaneous coating and development in parallel is possible)
- Press "Stop" button in the top left if necessary, to access other menus or change recipe family

11) Logout from equipment and access

- Unload cassette and remove wafers. Return cassette on the loading station.
- Cartridge. **In case of Spraycoating reload the default cartridge in the system**.
- Clicking on the login icon key will end the session.
- Log out on the CAE terminal.

Note: under any circumstances, do not exit the application or the windows session. The system will not function if restarted. Staff is required to initialize the tool.