

Operation Procedure for RTA1 Jipelec JetFirst 100 Rapid Thermal Processor

Start Up

1. If not already loaded, click on “**JetFirst**” on the desktop of the PC
2. Click “**Parameters**” in the upper left corner to see the active temperature display
3. Click “**PIMS**” in the upper left corner to see the main processing menu

Building, Editing, & Checking a Recipe

4. Click on “**Edit Recipes**” on the main menu
5. Enter “**j**” as the password if prompted
6. If checking or editing a previously loaded recipe, select a recipe from the pull down menu beside “Recipe name:”
7. If building a new recipe, click on “**Recipe**” at the top of the screen and select “**New**”. A new recipe can then be named with up to 10 characters.
8. Verify the correct calibration table is selected. If using the standard graphite susceptor then select “**G susc**”.
9. Add comments describing the recipe in the comments section
10. Click “**Save**” to save any changes or to save the new recipe
11. Click “**Step**” to go to edit mode for the recipe steps.
 - a. See pages 16-20 in the JetFirst User’s Manual for descriptions on how to build a recipe.
 - b. Typically process steps are thermocouple controlled
 - c. The RTA has the ability to run steps at atmospheric pressure, under vacuum (vacuum valve open), with nitrogen purge, and with available process gases (shown on the right side of the screen).
 - d. Set the temperature and duration (seconds) for each step
 - e. The temperature can ramp as fast as 200 C/sec
 - f. The last step’s duration = 0
12. To verify the process visually, click on the graph icon at the top of the screen to see a graphical representation of the process.

Running a Process

13. Open the chamber lid and load samples into the chamber.
14. If using the graphite susceptor, which is typical, load the samples onto it using caution not to scratch or damage its surface. Verify that the susceptor is in the center of the quartz pins and that the thermocouple is touching the bottom of it.
15. Close and latch the chamber lid.
16. On the main menu select “**Run Process**”
17. Select the desired recipe to run beside “Recipe to Download”
18. Click “**Download**” at the bottom of the screen. *It is recommended that the recipe be downloaded twice to insure a complete download.*
19. Verify that the recipe parameters are correct at the bottom of the screen.
20. Verify the samples are loaded and the chamber lid is closed.
21. Click “**Process**” at the bottom of the screen

22. Click "**Start Process**". The compressed air will start running and the main contactor will engage.
23. Watch the graphical display on the screen to follow the process (see the guide at the left side of the screen). Verify the process is running correctly and tracking the setpoint. TC1 is the main thermocouple readout.
24. When the process is complete the compressed air cooling will run for a mandatory 4 minutes.
25. At this point, there is an option to save the graph as a historical. This is the only chance to save this information if desired. The historical can be saved with a 10 character name and comments to any designated folder.
26. Click "**Save**" if you desire to save the historical then click "**Exit**" when complete.
27. The chamber lid door will remain locked until the thermocouple temperature is below 80 C.
28. Once the thermocouple is below 80 C, the chamber lid can be opened and the samples removed. Use caution so not to damage the susceptor and to be careful of hot surfaces.

Historicals (see page 29 in the User's Manual)

29. To look at historical saved data click "**Historicals**" on the main menu
30. Click "**Historicals**" again
31. Select desired historical to view and click "**Load**". This will display the graph.
32. Use the buttons at the top of the page to navigate. The process data at each point in the graph is displayed at the top of the page.
33. Close the window to exit
34. Select another historical or click "**Exit**" to go back to the main menu.

Shut Down

35. Click "**Exit**" on the main menu page (the program can only be exited **after** the mandatory 4 minute compressed air cool down)
36. Click "**Yes**"
37. Close the chamber lid if not already closed