

# CombiFlash<sup>®</sup> Torrent<sup>™</sup>

## Quick Start Guide

**Instruction Sheet 69-5243-134**  
**February 12, 2010**

### Overview

These instructions supplement the CombiFlash Torrent Module Installation Guide (part number 60-5243-135) and briefly describe the steps necessary to perform a purification run. These quick start instructions assume that:

- the system has been installed according to section 2 of the Installation Guide,
- the operator is familiar with the safety warnings in section 1 of the Installation Guide, and
- the system will be operated from the touch panel display.

### Quick Start Instructions

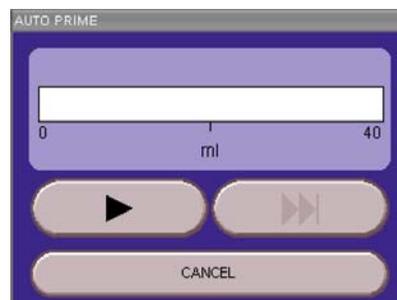
1. Perform Thin Layer Chromatography (TLC) on the sample. From the TLC you'll learn of a suitable column media and solvent system, and the difficulty of the compound separation.
2. With the column media known, select a RediSep<sup>®</sup> Rf column size appropriate for your intended sample load. Refer to the Help topic "RediSep Rf Column Selection Guide" for recommended sample load ranges. If the separation is difficult ( $\Delta R_f < 0.2$ ), your sample load should be near the low end of the selected column's range.
3. Insert the RediSep Rf column on the CombiFlash Torrent module. PeakTrak software loads a method for that column. You can manually select the column media and size if the system does not detect the column.



#### Note

Raising the upper column mount assembly from its top- or bottom-most point of travel triggers the RFID column detection. If you exchange a column without fully lowering or raising the upper column mount, select the File>New menu command instead to detect the RediSep Rf column.

4. Ensure that the Solvent A and Solvent B lines are routed to suitable solvents.
5. Select Tools>Auto Prime to open the Auto Prime Window (Figure 1). Click the Play button. The system primes the internal tubing and then closes the Auto Prime window.

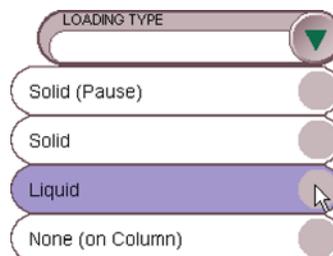


**Figure 1: PeakTrak's Auto Prime window**

6. On the main window, click the Play button.



7. From the Run Requirements window, select a Loading Type.
  - If the sample is soluble in the starting mobile phase (Solvent A), select Liquid.
  - If the sample is not soluble in the starting mobile phase, select Solid (Pause).
  - If the sample is loaded directly on the column media, select None. The separation will begin immediately without equilibration when you click the OK button.

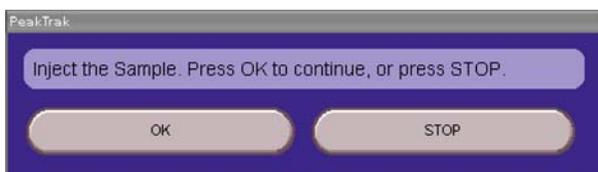


#### Note

Use the Solid option only when the solid sample cartridge is already prepared and loaded on the module. The module will equilibrate the column and then automatically begin the run without user intervention.

8. Click OK to start the run.  
If you selected Liquid or Solid (Pause), continue with step 9.  
If you selected None, skip steps 9 through 11 and continue with step 12.
9. The system will equilibrate the column. During this time, prepare the sample.
  - o If you selected Liquid, dissolve the sample in a minimal volume of Solvent A (or other miscible solvent) and draw the liquid into a syringe. Alternatively, prepare the optional Sample Load Pump.
  - o If you selected Solid (Pause), prepare the sample using a solid sample cartridge. Refer to the Help topic "Preparing Solid Samples" for instructions.

Liquid Samples



Solid Samples



**Figure 2: Pause messages**

10. The CombiFlash Torrent module will pause after performing the column equilibration (Figure 2). It will ask you to inject the sample or load the solid sample cartridge.
 

**If Liquid** – inject or pump the liquid into the sample injection port. To force the sample through the valve, follow this injection with another 5 mL of the starting mobile phase (chase solvent).

**If Solid** – load the cartridge on the CombiFlash Torrent module. To load the cartridge:

- a. The solid load cartridge cap must match the size of your selected cartridge. If it does not match, install the correct cap now.
- b. Press the lever on the side of the cap and fully extend the plunger.
- c. Slide the plunger into the cartridge until it reaches the top frit.
- d. Press the lever and push the cartridge into the cap. Align the cartridge so that it fits fully into the recess in the cap.
- e. Rotate the cartridge 1/4-turn to secure it in the cap. For 25 gram cartridges, rotate the cartridge clockwise. For cartridge sizes 65 gram and larger, rotate the cartridge counterclockwise.

**Note**

Refer to the instruction sheet titled "Adjustable Rf Solid Load Cartridge Cap for RediSep Rf" (available at [www.isco.com](http://www.isco.com)) for complete instructions.

11. Click OK to begin the run.
12. Monitor the red absorbance trace.

The CombiFlash Torrent module will proceed through the run and collect fluids in the fraction tubes. It isolates peak fluids from non-peak fluids. Tube change marks on the screen and the tube map help you locate your compounds.

For detailed operating instructions, refer to the on-line help.

**Operation Tip: Difficult Separations** – If the TLC indicates a difficult separation ( $\Delta R_f < 0.2$ ), click the Pause button at onset of each peak in the absorbance trace. This inserts an isocratic hold and extends the run. The isocratic hold can increase the resolution by delaying the release of the next closely eluting peak. When the absorbance of the peak is close to the baseline again, click the Pause button to resume the linear gradient which will help to maintain sharp peaks.

**Assistance Available**

Should you need assistance with these instructions, please contact Teledyne Isco.

**Teledyne Isco, Inc.**

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