Product Bulletin   99

SediGraph Baseline and Fullscale Averaging
Using the Opt5120 Utility Program

The SediGraph III 5120 software includes a utility program – opt5120.exe – that controls certain operations for the SediGraph software. This utility is installed in the default SediGraph directory, named *5120*, during software installation and directly affects two separate portions of the analysis.

The opt5120 utility modifies the SediGraph operation by changing options in a file that is read when you start the SediGraph application.

One feature of this utility is to modify the way in which the x-ray intensity is measured for the x-rays absorbed when no particles are present – the *baseline* – and for the amount absorbed when all particles are present – the *fullscale* scan – so that the percentage of the mass still suspended can be calculated.
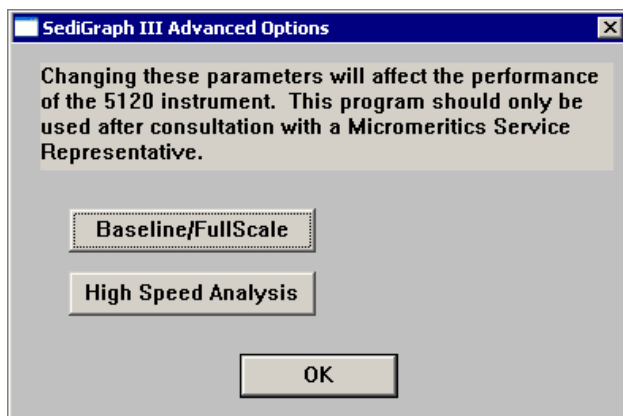
Normally, and by default, the baseline and fullscale scans are performed at the same cell positions where x-ray intensity is measured during the analysis. This way the measured intensity can be corrected for any small variations in the optical components or cell thickness. However, if very large particles are being analyzed, a high viscosity liquid is required to suspend them, causing the flow through the cell during the fullscale scan to be inconsistent. Thus the fullscale scan is not an accurate representation of the x-ray intensity passing through the cell when all particles are still suspended. When this occurs, it is more accurate to take an average value of the baseline and fullscale scan, based on several points collected at the bottom of the cell, instead of the actual x-ray intensity profile of the cell.

You can temporarily modify the operation of the SediGraph software to use an average baseline and fullscale scan using the opt5120 utility. Then after your sample is analyzed, use the utility again to re-establish normal operation.
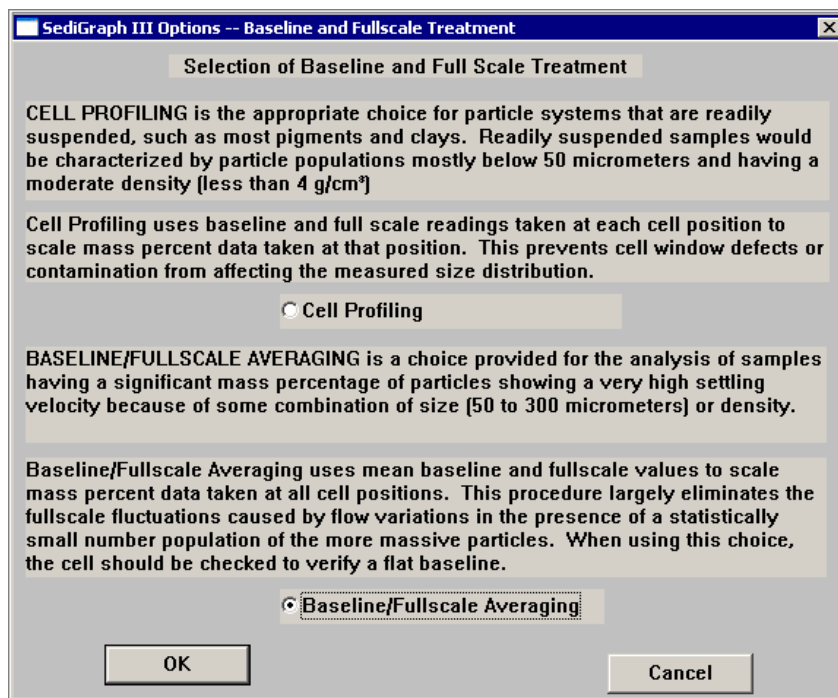
To access the opt5120 utility:

1. Close the SediGraph application.

2. Navigate to the 5120 application directory.

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3.   Locate the opt5120 utility, named opt5120.exe; double-click on the file to display the SediGraph III Advanced Options dialog.

You will note that the dialog instructs you to consult a Micromeritics Service representative before using this option. However, if you understand the reasons for using this option (discussed above) or unless you wish to discuss details of the operation, it is unnecessary to contact your representative.

4.   Click on the **Baseline/Fullscale** button to display the Baseline and Fullscale Treatment dialog.

5.   Select **Baseline/Fullscale Averaging**, then click **OK**. Click **OK** again to close the utility.

6.   Restart the SediGraph application and perform your analysis.

To return to normal operation:

1.   Close the SediGraph application.

2.   Start the opt5120 utility.

3.   Click on the **Baseline/Fullscale** button.

4.   Choose **Cell Profiling**, then click **OK** twice to exit the utility.

5.   Restart the SediGraph application.

A similar utility program was included in the SediGraph 5100 Windows software. That utility was named option51.exe and was installed in the primary SediGraph 5100 directory named win5100. The function and use of this utility was exactly the same as it is for the SediGraph III 5120 utility.