

## CFR Software v2.3 New Features

### 1. High Throughput Option

CFR software now supports longer run times and larger sample batch sizes, which increase productivity and provide enhanced flexibility. For systems using the Alcott autosampler, the syringe pump may be replaced with a new, continuous-flow pump that allows users to increase the sample batch sizes from 50 to 200 injections. In addition, the fluid expiry time increases from 9 hours to 60 hours. The existing syringe pump system can be upgraded by purchasing the new LabAlliance fluid delivery pump from Convergent Bioscience and installing the new CFR software.

For systems using the PrinCE MicroInjector, the sample batch size has been increased from 50 to 150 and the fluid expiry time is now 60 hours, compared to the former 18 hours.

### 2. Batch on the Fly

Development Batch Table flexibility has been greatly enhanced, as the User can perform the following actions **after** submitting a Development Batch:

- **Pause** the Development Batch and open the iCE280 Analyzer door to refresh electrolytes.
- **Pause** the Development Batch and review previous injection separation data.
- Based on the previous injection data prepare new samples with different conditions, **Pause** the Development Batch and add the new samples to the autosampler and modify the Development Batch table by **Adding** new Sample Injection rows representing the new samples.
- **Remove** the unwanted injection rows.
- **Modify** the parameters of the iCE280 and the autosampler, as well as the sample conditions for the un-tested Injections.

All Development Batch changes are recorded under the same Batch filename. This allows users to record the separation results of various sample conditions in one Batch file. This enhancement saves further time, since the earlier versions require the batch to finish before submitting the new injections.

### 3. Focus Capture

Focus Capture, unique to Convergent's imaged cIEF technology, is a powerful new capability added to the Batch Book review window to allow users to view the progress of the IEF separation process **after** the sample has been run and its file created. During focusing, at 30 second (approximately) intervals, an IEF



separation image is captured as raw data (i.e. \*.ief file). Operators may then use these captured images to interpret the sample injection's final electropherogram. This feature provides valuable information and saves time, as the current requirement of doing screen captures to record the entire focusing is now eliminated.

As well, the user has more flexibility, as these captured separation images may be exported as a text file and can be viewed and plotted in MS Excel.

#### **4. Empower Compatibility**

For data processing and report generation purposes, the User may now specifically convert .ief files for importation into Water's popular chromatography software – Empower. The file conversion preserves essential raw data parameters and ensures proper handling and display within the Empower software. Convergent has prepared a user guide to assist Users by recommending 'set-up' conditions in Empower that provide trouble-free importation. As well, the guide shows the User how to re-name labels in various Empower displays and reports to properly reflect pI units. For labs using Empower, this new feature offers consistency and centralization in data analysis and will save time in training new iCE280 users.

#### **5. pI Marker Corrections**

When pI calibrating a sample injection file, the CFR software will now allow **Admin** and **Scientist** User types to correct for a pI Marker error that may exist in an 'Acquired Development Batch'. Only one (1) correction is permitted and the action is logged and the new pI values are saved in the raw \*.ief file. This feature saves the time of re-running the batch as was formerly required.

#### **6. Serial Number Changes**

The **High Administrator** user is now permitted to change the serial numbers of the iCE280 unit and the autosampler in the Instrument.icf file. This event is recorded in the Instrument Log. This feature eliminates the former requirement of re-installing the software.

#### **7. PC Identification**

The CFR software's serial number is now recorded to identify the dedicated PC associated with the iCE280 system. This feature will help users with multiple systems identify the correct software disc to reload on a particular PC.

#### **8. Improved Fault Handling Sequence**

If either the iCE280 unit or the autosampler does not respond to automatic software commands during a batch run, the batch progress will be automatically interrupted and all menu item functions are 'greyed' out forcing the user to exit the CFR software. The communication problem must be resolved before the software can run.



## 9. Injection Needle Vial Depth

The vial depth of the sample injection needle for the Alcott autosampler is now under User control can be and between 25 and 50 mm. The CFR software supports two sample tray types: 1) 72 vial Sample Tray and 2) 96.

For the 72 vial Sample Tray, the default needle depth setting is 48mm. The User can check (and adjust if necessary) the needle depth in Manual Mode by setting a needle depth and testing it in Vial Position: 34. The User may wish to check the needle depth if they change the sample vial type or replace a damaged injection needle.

For the 96 well Microtiter Plate, the default needle depth setting is 46 mm. The User can check (and adjust if necessary) the needle depth in Manual Mode by setting needle depth and testing it Vial Position: D6. The User may wish to check the needle depth if they change the manufacturer of the Microtiter Plate or replace a damaged injection needle.

Whenever the User changes the sample tray type, the needle depth is automatically reset to the default value.

## 10. Serial Communication

Serial communication for either the iCE280 unit and/or the autosampler may now be provided by the PC through a USB port using a USB-to-Serial Adaptor cable. This provides greater flexibility, as any computer can be used, including notebooks, with USB ports that do not have 2 serial ports.

## 11. Backward Compatibility

Version 2.3 is backwards compatible with Version 2.0, 2.1, and 2.2.x. Thus, any 'Acquired Batch' files may be reviewed in the Batch Book Review, regardless of the autosampler or the previous software versions.

## 12. Other Enhancements

- An 'Acquired Batch' can be saved as a new batch filename to a different sub-folder or to the main folder.
- Enable the Write permission of Users group of the iCE280 software folder during software installation. It is used to permit **Scientist** and **Operator** User types within the iCE280 software to operate the instrument in a CFR compliant manner.
- Add current and time readout to all TTM graphs to provide more information. Previously, only a graph was displayed, but now, by clicking on any point on the graph, the time and current will be displayed.

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