



Dataloader Utility User Manual

The DataLoader utility was designed to work in conjunction with the main analyser comparison spreadsheet. It was created to simplify the task of processing large volumes of IQC data into a single and repeatable action. It is an Excel spreadsheet which transports data from files extracted from various QC packages into test specific copies of the main comparison spreadsheet.

QC data must be extracted from the laboratory's middleware / QC package in a predefined format. Processes have already been created for major suppliers such as Abbott, Beckman Coulter, Roche and Siemens. Separate comparison spreadsheets are output for every analyte present in the QC data files, limited to 2 levels of QC a maximum of 12 analysers per analyte and a maximum of 50,000 results in total. Routine operation generally involves many tests, however, a single summary spreadsheet is created for ease of review.

The DataLoader can accommodate up to 12 QC files in any single transaction. This allows some flexibility about the data being processed and sources of information. The system is designed to compare "like with like" so the data in each file must be compatible e.g. test names must be the uniform, analyser names unique and levels of QC identifiable by level (no shared batch numbers). When more than 2 levels of IQC are encountered only the first 2 levels encountered will be processed.

Configuration

The DataLoader requires minimal configuration. This is generally the location of files. This information is stored for use each time the application is used.

A minimum of five items must be selected / completed:

- 1) Processing option: Import only, Process only or Import & process. The latter is the default and desired option. The option is selected from a drop down list.
- 2) System supplier. This is selected from a drop down list and controls how data is processed. A manufacturer specific macro imports and processes data according to a predefined file format. Using files with the incorrect format will give rise to unreliable results.
- 3) The location and full filename of the QC data. This can be on a local hard drive or a shared network location. The full filename including the file extension must be included. Clicking on the button to the right of this option allows the file to be picked which removes the likelihood of errors. The file types / contents required are indicated below.
N.B. Where an organisation consists of multiple sites and or multiple middleware systems the DataLoader can import and combine data from up to 12 separate files, however, each file must be of the same format. To use multiple files enter the file names in the cells to the right of the labels supplementary import file 2 ... 12. The full path and

name for each file must be entered. These may also be picked by clicking on the appropriate line and then the button to select the file.

- 4) The location where spreadsheets will be created. This can be on a local or network drive. Clicking on the button to the right of this option allows the location to be picked, reducing the likelihood of errors. The application can create a new subfolder but only at a single level i.e. it can only create a subfolder to an existing folder.
- 5) The location and full filename of the ANOVA template file. This can be on a local hard drive or a shared network location. The full filename including the file extension must be included. Clicking on the button to the right of this option allows the file to be picked which removes the likelihood of errors. This is used to create the analyte specific spreadsheets.

User defined analysis criteria

An optional configuration is the target values on which both analyser and network evaluations are made. These values are stored and re-used each time data is processed. Opting to enter data manually onto the test sheets would render the summary sheet unusable. This information is stored in the "evaluationcriteria" template. This sheet consists of the tests name (as per the extract) and up to 8 values, 4 for each level of QC material. The utility helps to create and maintain this table by extracting test names from previously processed summary sheets created by the DataLoader. It is highly recommended to run the application once (without evaluation criteria present) then populate the test names in the "evaluationcriteria" sheet by using the summary sheet just created – this gives you an accurate list of all test codes seen. Then add your target values and re-process the data. This will refresh your previous data and include the target values just entered. A new summary sheet will be created with the appropriate accept / reject statements. This only needs to be done once although periodic reprocessing of summaries will ensure that any new tests recently introduced are added to the list.

Suggested use of the DataLoader

- Data is extracted and processed at user defined intervals e.g. daily / weekly / monthly as desired.
- When extracting data for networks of laboratories analyser names on different sites must be different to allow differentiation. The same QC materials, lot numbers and levels must be used on each site to achieve a like to like comparison. It may be necessary to perform a simple find and replace on the data extracts to resolve naming issues prior to processing.
- Separate files may be extracted and processed simultaneously to give the desired levels of QC /tests / analysers for comparison.
- Configuration items 1 and 2 (processing option and supplier) are likely to remain unchanged.
- The name of the data file may be controlled by the middleware - if not keeping it the same every time eliminates the need to amend item 3 every time the utility is used.
- Maintain a fixed location where data is output to. Create a folder e.g. "X:\QC Data" where X is a drive letter. Every month manually add a subfolder so that an archive can be created. The application will automatically create a subfolder if it is not already present e.g. X:\QC Data\Jan2014. (N.B. Only 1 level of subfolder can be automatically

created). All files will be created in this folder. The summary file will have a date added to its name.

- Data processing should not be interrupted and the PC should be allowed to process the data to completion. Typical data processing time is a few minutes but this depends on hardware and the volume of data being processed. A large number of files may be opened and closed automatically during processing. At completion the summary file will remain open and a message will be displayed on screen.

When all configuration items are complete a single left click of the mouse button will start processing. The time taken depends on the PC and quality of data to process. Incorrect entries on configuration items may give rise to error messages. Using the wrong data format will give rise to inappropriate results as data mapping will be affected. Some characters will be suppressed in imported test names to prevent filename errors.

Compatibility

The application has been tested on various combinations of Microsoft operating systems (Windows XP, Windows 7 and Windows server 2008) and Excel (2003 and 2010). All combinations worked appropriately with 1 notable exception – scaling of graphs. Graphs scales are set by the macro in Excel 2003 but versions of Excel above 2007 are limited by Microsoft security settings to the automatic setting only which does not always use appropriate scales.

N.B when using Excel 2003 an “.xls” version of the template file must be used. Using an “.xlsx” file will cause a read only file to be created which will fail to be updated appropriately. To create this file open the “.xlsx” template file click on save as and choose the 2003 “.xls” file format.

Data Extraction Information / Instructions

The contents of the QC data files must include:

Name / code of the test

Identity of the analyser used

Identity of the QC material (usually lot number – must be level specific)

Result (numeric value)

Target mean and SD - if not directly available these will be calculated from an expected range based on a range being mean +/- 2SDs.

Abbott AMS

A custom data extract of an “.xls” file containing the fields:
test description, analyser name, QC lot number, mean, sd and result.

Beckman Coulter – DataWizard

- Login to datawizard.
- Select reports from the icons on the left
- Select the All points raw adapt report.
- Enter an appropriate date range

- Select the analysers, control materials test and lot numbers of QC as appropriate
- Click on Run (top menu bar) – wait – this can take a few minutes.
- When the report shows, click on the export icon (first icon)
- Select the location to put the file and enter a file name. Change the “Save as type” option to “Microsoft Excel **Data Only** (*.xls) – this is critical as it is the only option that can be used by the DataLoader.
- Click on OK – the data will be exported.
- Close all remaining screens.
- The data is now ready to be used by the DataLoader.

Roche

Excel spreadsheet ending with “.xls” with fields:

Instrument, Test, Control, Result, ReviewStatus, DateTime, Flag, RuleStatus, ControlLot, TestLot, Comment, TargetMean, TargetSD, GlobalTestStatus, ID, SDI, N, Bias, Mean, SD, CV.

Siemens - Centralink

Comma separated file ending with “.csv” with the fields (in order):

Test name, analyser, qc lot number, level, mean, sd and result.