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QIAsymphony® Management Console User Manual

For use with software version 5.0

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Sample to Insight

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1 Introduction

1.1 About this user manual

This user manual provides information about the functions and features of the QIAsymphony Management Console (QMC). Please refer to the QIAsymphony SP/AS user manuals for complete information about the proper care, maintenance and use of the instruments.

The QIAsymphony SP/AS instruments are provided with 4 user manuals, as outlined below:

QIAsymphony SP/AS User Manual — General Description

- Provides a description of the instruments, and describes functions (e.g., handling files) that are the same for both instruments. Information about maintenance procedures and troubleshooting is also provided in this manual.

QIAsymphony SP/AS User Manual — Operating the QIAsymphony SP

- Provides details about how to operate the QIAsymphony SP instrument and a description of the QIAsymphony software required for operating the QIAsymphony SP.

QIAsymphony SP/AS User Manual — Operating the QIAsymphony AS

- Provides details about how to operate the QIAsymphony AS instrument and a description of the QIAsymphony software required for operating the QIAsymphony AS.

QIAsymphony Management Console User Manual (this user manual)

- Provides details about how to use the QIAsymphony Management Console.

QIAsymphony SP/AS Consolidated Operating Guide

- Provides details about how to operate the QIAsymphony SP/AS instrument and a description of the QIAsymphony software required for operating the QIAsymphony SP/AS.

This user manual describes the features of the software and associated tools and enables the user to manage files, create Assay Control Sets or Assay Parameter Sets, convert the format of Rack Files or Work List Files and check that files have not been modified.

Information about the QMC is provided in the following sections:

1. Introduction
2. Getting Started
3. Features of the QIAsymphony Management Console
4. **File Transfer** Tool
5. **Process Definition** Editor Tool

6. **Checksum Validator** Tool
7. **Concentration Data Editor** Tool
8. **CSV Conversion** Tool
9. **Automatic File Transfer** Tool
10. **IC Calculator** Tool
11. **Bar Code Scan Conversion** Tool
12. Getting Started
13. Configuration
14. Logging in and Connecting
15. Managing Files
16. Creating and Modifying Process Files
17. Uploading Process Files to the QIAsymphony
18. Troubleshooting

1.2 General information

1.2.1 Technical assistance

At QIAGEN, we pride ourselves on the quality and availability of our technical support. Our Technical Services Departments are staffed by experienced scientists with extensive practical and theoretical expertise in molecular biology and the use of QIAGEN products. If you have any questions or experience any difficulties regarding the QIAsymphony SP/AS instruments or QIAGEN products in general, do not hesitate to contact us.

QIAGEN customers are a major source of information regarding advanced or specialized uses of our products. This information is helpful to other scientists as well as to the researchers at QIAGEN. We therefore encourage you to contact us if you have any suggestions about product performance or new applications and techniques.

For technical assistance and more information, please contact QIAGEN Technical Services (see the back cover or visit **www.qiagen.com**).

1.2.2 Policy statement

It is the policy of QIAGEN to improve products as new techniques and components become available. QIAGEN reserves the right to change specifications at any time. In an effort to produce useful and appropriate documentation, we appreciate your comments on this user manual. Please contact QIAGEN Technical Services.

2 Getting Started

The QMC is developed exclusively for use with the QIAsymphony SP/AS instruments. This user manual is for use with software version 5.0.

2.1 Available tools

The QMC includes the following tools:

- **File Transfer** tool
- **Process Definition** editor tool
- **Checksum Validator** tool
- **Concentration Data Editor** tool
- **CSV Conversion** tool
- **Automatic File Transfer** tool
- **IC Calculator** tool
- **Bar Code Scan Conversion** tool

For more information about the tools, see "Tool list", page 15.

2.2 Controlling the mouse

The following terms for controlling the mouse are used in this user manual.

Term	Action
Click	Click with the left mouse button.
Right-click	Click with the right mouse button.
Double-click	Double-click on the left mouse button.
Highlight	Place the pointer over an item and click the left mouse button. The item becomes highlighted.
Select "XXX/xxx"	In the toolbar, select the "xxx" submenu from the "XXX" menu.

2.3 Installing the QIAsymphony Management Console

Note: Failure to follow these instructions may lead to unsuccessful installation of the QMC.

2.3.1 Minimum PC requirements

The table below lists the minimum PC requirements for the QIAsymphony Management Console.

PC feature	Requirements
Supported operating systems	Microsoft® Windows® 7 and 10
Disk space	50 MB of available hard drive space
Memory	512 MB of RAM
USB port	Available USB port for Mass Storage Devices
Network	Available TCP/IP network (necessary for remote access)
Monitor/color settings	1024 x 768 screen resolution with 256 colors
CD-ROM drive	CD-ROM drive (for software installation only)

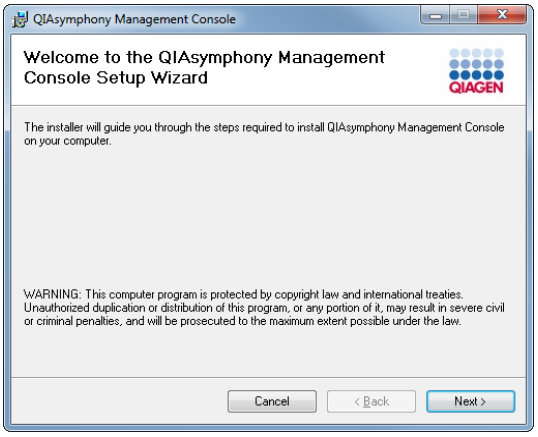
Note: If a firewall is installed on the PC, it may prevent files from being transferred.

Note: A PDF reader is required for use with the **Process Definition** editor and **IC Calculator** tools.

2.3.2 Installation

Begin installation of the QMC as follows.

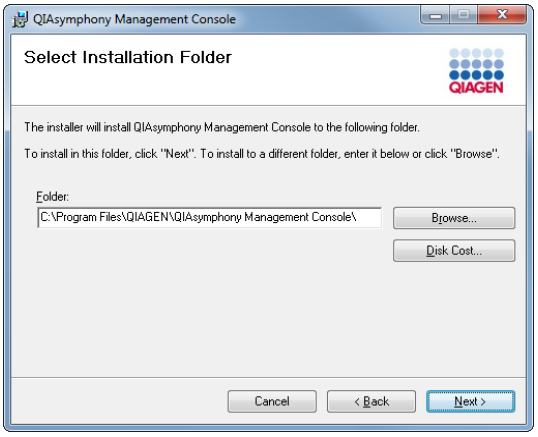
1. Check that the minimum PC requirements (see Section 2.3.1, above) are met.
2. Uninstall any previous versions of the QIAsymphony Management Console on the PC that connects to the QIAsymphony. For more information, see Section 2.4.
3. Insert the QMC installation CD into the CD-ROM drive of the PC.
4. To launch the installation, right-click **Start** and select **Explore**. Browse to the CD-ROM drive and the QMC installation files.
5. Double-click the **Setup.exe** file. The InstallShield® Wizard is launched. The wizard installs the necessary components to the PC.



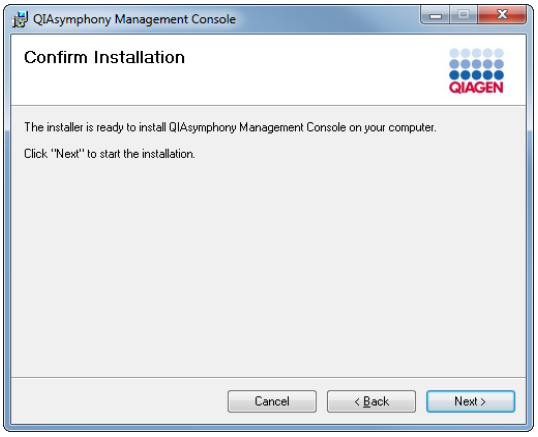
6. Click **Next** to continue.

   Note: If an older version of the QMC software is installed on the PC, first remove the old version before proceeding with the installation (for detailed information, see Section 2.4).

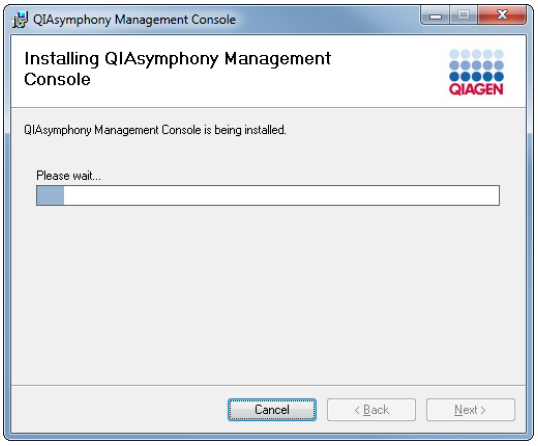
7. Select the installation folder for the QMC by following the instructions in the dialog box. Click **Next** to continue.

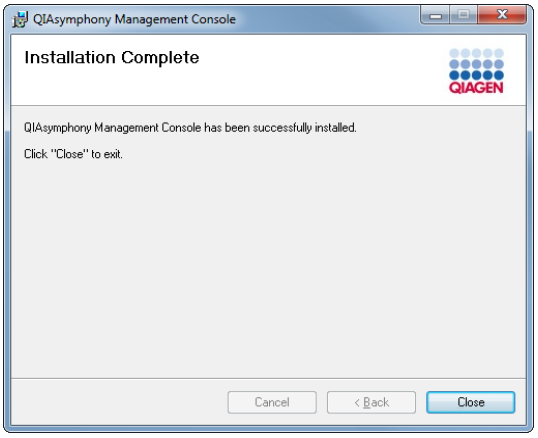


8. Click **Next** to start the installation.



A dialog box opens that shows the progress of the installation procedure.





9. When the installation has finished, click **Close** to exit the installation wizard.

2.4 Uninstalling the QIAsymphony Management Console software

Note: Before installing a new version of the QMC software, save all result and log files in a different folder, and then delete all remaining files and folders from the old software version. A new file/folder structure will need to be created when the new version of the software has been installed.

Uninstall the QMC software before installing a newer version as follows:

1. Click **Start**.
2. Select **Control Panel**.
3. Select **Program Features**.
4. Select the **QIAsymphony Management Console** from the list and click **Uninstall**.

After the management console has been successfully uninstalled, a newer version can be installed.

Note: All local data will remain on the PC.

2.5 Launching the QIAsymphony Management Console

Launch the QMC as follows:

1. Click **Start**.
2. Select **All Programs/QIAGEN/QIAsymphony Management Console** from the **Start** menu.

The QMC is launched and the **File Transfer** tool is displayed.

If you are launching the QMC for the first time, a dialog box will be displayed that asks you whether the same directories that are on the remote site (QIAsymphony or USB stick) should be created. If you click **Yes**, the subdirectories are created in the default main (root) directory (**C:/Program files/QIAGEN/ QIAsymphony Management Console**). If you click **No**, the data directories will not be created in the default root directory.

The dialog box will also be displayed if QIAsymphony has other subdirectories in addition to those found in the default main (root) directory. Click **Yes** to update the data structure.

If an older version of the QMC was installed and has been uninstalled by following the steps in Section 2.4, the defined root directory for the **File Transfer** tool will be kept. If the dialog box described above is displayed, click **Yes** to update the subdirectories so that they have the same structure as those on the QIAsymphony.

When the QMC is launched for the first time, you may need to configure the general options and the options for the **File Transfer**, **Checksum Validator**, **Process Definition** editor, **CSV Conversion** and **Automatic File Transfer** tools (for detailed information, see Section 13).

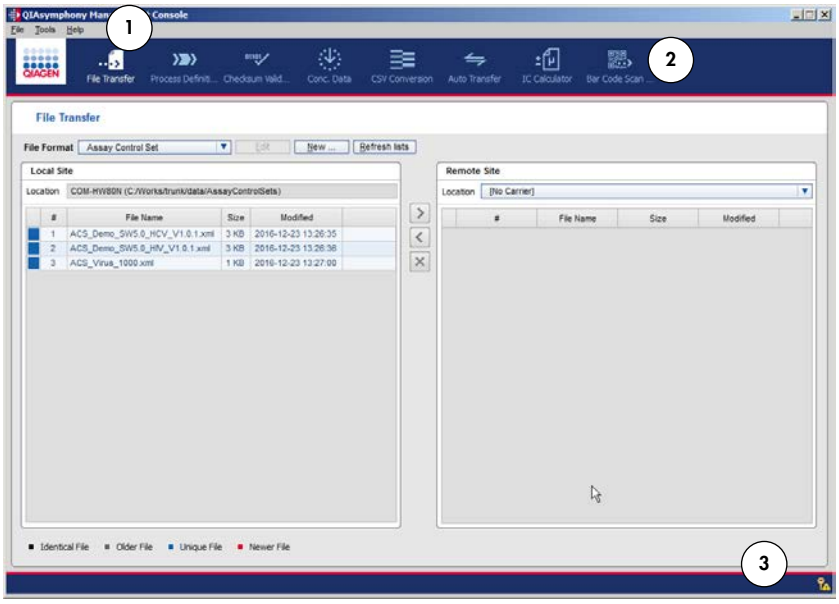
To manage files on the QIAsymphony, log in to the QIAsymphony (for detailed information, see Section 14).

Note: The QMC does not show up properly when Windows is running with a zoom factor (e.g., 125%). On the PC, go to the Windows **Control Panel**, select **Display** and set the zoom factor to 100%. If the PC is connected to a high-resolution display, it might additionally be necessary to reduce the screen resolution otherwise the QMC screens might be so small that the text cannot be read. In the Windows **Control Panel**, select **Display** and then go to **Adjust resolution**.

3 Features of the QIAsymphony Management Console

The main screen of the QMC automatically appears when the QMC is launched. Each screen of the QMC provides:

- A menu bar for selecting various options
- A tools list enabling selection of tools (see Section 2.1)
- An information bar
- An information panel (except in the main screen)



QIAsymphony Management Console main screen.

1 Menu bar

2 Tool bar

3 Information bar

3.1 Menu bar

The menu bar contains the **File**, **Tools** and **Help** menus.

The sub-menus of these drop-down menus are black when enabled and gray when disabled.

3.1.1 **File** menu

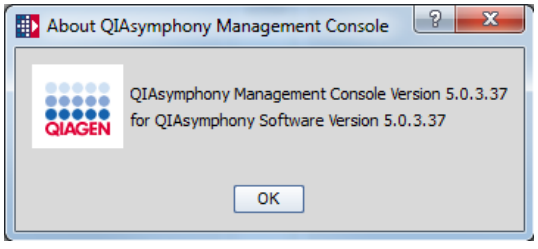
Login	The **Single Sign On – Login** dialog box appears (see Section 14.1). This enables the user to connect to the QIAsymphony via a network. **Note**: It is not possible to connect to the QIAsymphony if the instrument is switched off. **Note**: The QIAsymphony Management Console and the QIAsymphony must have the same software version (i.e., software version 5.0).
Logout	This enables the current user to log out and disconnect from the QIAsymphony.
Exit	Closes the QMC.

3.1.2 **Tools** menu

Options	The **Options** dialog box appears (see Section 13.1).
List of available tools	Opens the selected tool.

3.1.3 **Help** menu

About	The **About QIAsymphony Management Console** dialog box appears and displays information about the management console including the version numbers.



3.2 Tool list

All available tools are displayed in this list. Currently, the following tools are available:

- **File Transfer** tool
- **Process Definition** editor tool
- **Checksum Validator** tool
- **Concentration Data Editor** tool
- **CSV Conversion** tool
- **Automatic File Transfer** tool
- **IC Calculator** tool.
- **Bar Code Scan Conversion** tool

Individual tools are described in the following sections.

3.2.1 **File Transfer** tool

The **File Transfer** tool enables file exchange between the QIAsymphony and a predefined local path on an external PC or network, using either a connection or using a USB stick (see Section 15).

3.2.2 **Process Definition** editor tool

The **Process Definition** editor tool enables the creation or modification of process files (e.g., Assay Control Sets or Assay Parameter Sets). For more information, see Section 16.

3.2.3 **Checksum Validator** tool

The **Checksum Validator** tool enables validation of result files as well as all protected files on the QIAsymphony (see Section 15.5).

3.2.4 **Concentration Data Editor** tool

The **Concentration Data Editor** tool converts cycler concentration data files to QIAsymphony-compatible data files. It can also be used to manually create a concentration data file (see Section 7).

3.2.5 **CSV Conversion** tool

The **CSV Conversion** tool enables the format conversion of files in *.csv and *.xml format (see Section 15.6).

3.2.6 **Automatic File Transfer** tool

The **Automatic File Transfer** tool enables automatic transfer of result, log, loading information, start batch confirmation and cycler files from the QIAsymphony to a predefined directory as well as automatic transfer of work lists from the local PC or network to the QIAsymphony (see Section 15.4). Newly transferred result files and loading information files can also be printed automatically (see Section 15.4.1).

3.2.7 **IC Calculator** tool

The **IC Calculator** tool assists for calculating the volumes of individual components of the internal control (IC) mix for the QIAsymphony SP (see Section 10).

3.2.8 **Bar Code Scan Conversion** tool

The **Bar Code Scan Conversion** tool enables the generation of a rack file from a bar code scan file to a predefined directory.

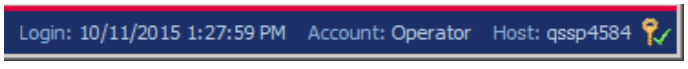
The tool is supported to scan 2D bar coded FluidX® 1 ml elution tubes in 96-well format as an eluate rack for SP, AS and integrated runs using an external FluidX Perception™ Rapid Rack Reader for SBS Racks (**www.fluidx.eu**, **www.brooks.com**; cat. no. 20-4001-A) or a VisionMate™ Wireless 2D Barcode Reader (**www.thermo.com/matrix**; cat. no. 3122).

Note: Scan files can only be converted when all positions are loaded with tubes and there are no reading errors.

Note: It is possible to block the first columns of the rack file. (For more information, see Section 11.)

3.3 Information bar

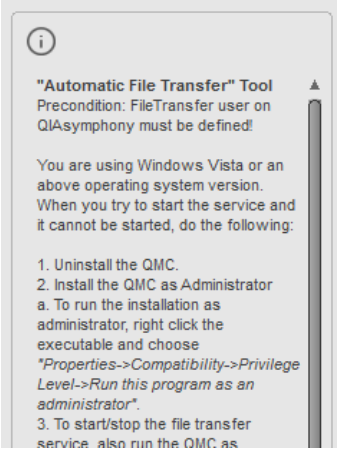
The information bar is located at the bottom of the screen and when a user is logged in it displays information about the name of the current user, date and time of login and the QIAsymphony host name. In addition, a symbol is displayed enabling the operator to easily see whether a user is currently logged in.



Login	Date and time of login is displayed.
Account	The name of the user currently logged in is displayed.
Host	The QIAsymphony host name that has been selected for remote access is displayed. By default, the host name is "qsspxxxx", where "xxxx" is the serial number of the QIAsymphony SP.
	Symbol denotes that a user is currently logged in.
	Symbol denotes that no user is currently logged in.

3.3.1 Information panel

The information panel is located on the right side of the screen. This panel provides helpful information about the current screen. Use the up and down arrows to scroll through the text.



Example information panel.

4 **File Transfer** Tool

Files can be uploaded, downloaded or deleted using the **File Transfer** tool. Files can be managed via connection to the QIAsymphony or using a USB stick.

The **File Transfer** tool enables the following:

- Exchange of files between the QIAsymphony and a predefined local path on an external PC or network.
- Deletion of files on the predefined local path or network, QIAsymphony or USB stick.
- Transfer of files from a predefined local path or network to a USB stick.
- Transfer of files from a USB stick to the predefined local path or network.

When using a QIAsymphony connection, the role of the user that established the connection affects the types of files that can be managed, as described in the following table.

The "Operator" enables transfer of the following file types from the QIAsymphony to the QMC.

Operator

QIAsymphony SP and AS files:

Note: Transfer of QIAsymphony AS files is only an option with the QIAsymphony AS.

- Audit Trail
- Instrument Report
- Log files
- QDef files
- Rack files
- Translation files
- Work lists

QIAsymphony SP files:

- Start Batch Confirmation SP
- Result file SP

QIAsymphony AS files:

- Cycler files
- Loading information
- Result file AS

- Concentration import file
- Start Batch Confirmation AS

The "Operator" enables transfer of the following file types from the QMC to the QIAsymphony.

Operator

- Rack files
- Work lists
- Concentration import file AS

The "Supervisor" enables transfer of the following file types from the QIAsymphony to the QMC.

Supervisor

QIAsymphony SP and AS files:

Note: Transfer of QIAsymphony AS files is only an option with the QIAsymphony AS.

- Audit Trail
- Instrument report files
- QDef files
- Log files
- Rack files
- Work lists
- Process configuration profile
- User management file
- Maintenance configuration files

QIAsymphony SP files:

- Service script maintenance SP
- Service scripts operator SP
- Duration SP files
- Labware SP files
- Assay Control Set files
- Protocol files
- Reagent definition Files
- Start batch confirmation SP

QIAsymphony AS files:

- Service script maintenance AS
- Service scripts operator AS
- Duration AS
- Labware AS
- Assay Definition
- Assay Parameter Set

The "Supervisor" enables transfer of the following file types from the QMC to the QIAsymphony.

Supervisor

QIAsymphony SP and AS files:

- Process configuration profile
- Rack files
- Work lists
- User management file
- Translation files

QIAsymphony SP files:

- Assay Control Set
- Protocol files
- Reagent definition file
- Labware SP
- Service script maintenance SP
- Service script operator SP

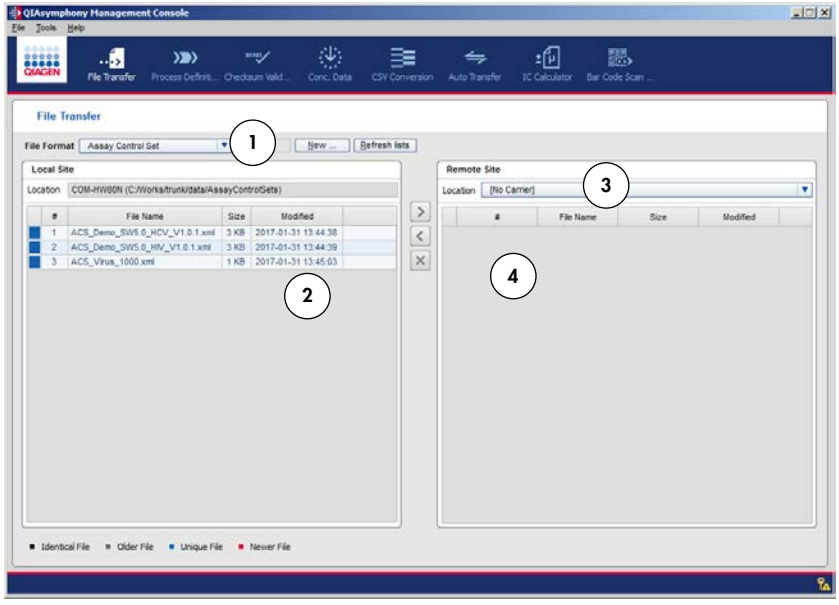
QIAsymphony AS files:

- Assay Definition
- Assay Parameter Set
- Normalization definitions AS
- Concentration import file AS
- Labware AS
- Service script maintenance AS
- Service script operator AS

4.1 Features of the **File Transfer** tool

The **File Transfer** tool displays several features including:

- A **File Format** drop-down menu that enables the type of file to be selected.
- **Edit** and **New** buttons that are enabled when **Assay Control Set** or **Assay Parameter Set** is selected as file type, and the user is logged in as "Supervisor".
- A **Remote Site** selection box that enables selection of the remote site (USB stick or connected QIAsymphony).
- A list of files stored on the predefined local path or network (for more information, see page 50), displayed according to selected file type.
- A list of files stored on the remote site, if available, displayed according to selected file type.



1 **File Format** drop-down menu

2 **Local Site** file list

3 **Remote Site** selection box

4 **Remote Site** file list

4.2 **File Format** drop-down menu

Available file types are displayed in the **File Format** selection box. The items displayed in the list vary depending on whether a user is logged in, the user role, and whether a QIAsymphony AS instrument is connected.

4.2.1 File types in **File Format**

User	Selectable file types	Action
No user logged in	Assay Control Set Assay Definitions Assay Parameter Set Audit trail Concentration import Configuration Cycler Data recording AS Data recording SP Duration AS Duration SP Instrument report Labware AS Labware SP Loading information Log files Maintenance configuration Normalization definition Process configuration profile Protocol Protocol, unfinished QDef Rack Reagent definition Result AS Result SP Service script developer AS Service script developer SP Service script maintenance AS Service script maintenance SP Service script operator AS Service script operator SP Service Script Service AS Service Script Service SP Start Batch Confirmation AS Start Batch Confirmation SP	Files saved on the predefined local path on the PC or network are listed in the local path file list. Files can be deleted from the local path. Files can be transferred from the local path (root directory) to the USB stick or from the USB stick to the local path. Files on the USB stick can be deleted. If **Assay Control Set** or **Assay Parameter Set** is selected as the file type, new Assay Control Sets or Assay Parameter Sets can be created and existing sets can be modified.

User	Selectable file types	Action
	Translation	
	User management	
	Work list	
	Work table	
"Operator"	Audit Trail	Files saved on the predefined local path on the PC or network are listed in the local path file list. Files can be deleted from the local path. Files can be transferred to the USB stick or from the USB stick to the local path. Files on the USB stick can be deleted. All listed file types can be downloaded from the QIAsymphony to the local path. Work list and rack files can be uploaded from the local path to the QIAsymphony. All listed file types, except log files can be deleted from the QIAsymphony.
	Concentration import	
	Cycler	
	Instrument report	
	Loading information	
	Log files	
	QDef	
	Rack files	
	Result AS	
	Result SP	
	Start batch confirmation AS	
	Start batch confirmation SP	
	Translation	
	Work list	
"Supervisor"	Assay Control Set	Files saved on the predefined local path on the PC or network are listed in the local path file list. Files can be deleted from the local path. Files can be transferred to the USB stick or from the USB stick to the local path. Files on the USB stick can be deleted. If **Assay Control Set** or **Assay Parameter Set** is selected as file type, new Assay Control Sets or Assay Parameter Sets can be created and existing sets can be modified. Work lists, rack files, Assay Control Sets, protocols, Assay Parameter Sets, assay definitions, labware files, service scripts, process configuration profiles and information about reagent cartridges can be transferred to the QIAsymphony.
	Assay definitions	
	Assay Parameter Set	
	Audit Trail	
	Concentration import	
	Cycler	
	Duration AS	
	Duration SP	
	Instrument report	
	Labware AS	
	Labware SP	
	Loading information	
	Log	
	Normalization definition	
	Process configuration profile	
	Protocol	
	QDef	
	Rack	

User	Selectable file types	Action
	Reagent definition Result AS Result SP Service script maintenance AS Service script maintenance SP Service script operator AS Service script operator SP Start batch confirmation AS Start batch confirmation SP Translation User management Work list	All listed file types can be downloaded from the QIAsymphony. All listed file types, except log files, information about reagent cartridges, service scripts, and user management files can be deleted from the QIAsymphony.

Important: When transferring a new labware package using the QMC, ensure that the set of files that is in the installation package is completely transferred to the QIAsymphony. In addition, ensure that any files that are not included in the package (marked blue on the **Remote Site** in the **File Transfer**) are removed from the QIAsymphony.

4.2.2 Buttons next to **File Format** selection box

Edit	This button is enabled if **Assay Control Set** or **Assay Parameter Set** is selected as file type and one Assay Control Set or Assay Parameter Set is highlighted. Click to modify an existing Assay Control Set or Assay Parameter Set.
New	This button is enabled if **Assay Control Set** or **Assay Parameter Set** is selected as file type. Click **New** to create a new Assay Control Set or Assay Parameter Set.
Refresh lists	Click to update the **Local Site** and **Remote Site** file lists.

4.3 **Remote Site** selection box

Remote sites are listed in the **Remote Site** selection box. Use this list to select the remote site (QIAsymphony or USB stick) you want to work with. The QMC can either be connected to the QIAsymphony or to a USB stick. Alternatively, the QMC can be used offline.

- To connect to the QIAsymphony, you must first log in.
- To connect to a USB stick, user login is not required.

4.4 **Local Site** and **Remote Site** file lists

Available files on the local path and remote site are displayed in the **Local Site** file list and **Remote Site** file list, respectively. Files are displayed according to the selected file type.

The local path is configured in the **Options** dialog box of the **Tools** menu (see Section 13.1).

4.4.1 Displayed file information

Additional information about the listed files is shown in the following table.

Use of colors	 **Identical File** (black): The file is identical on the remote and local site. **Older File** (gray): The file is older than the other file and exists on both the remote and local site. **Unique File** (blue): The file exists on either the remote site or the local site, but not on both. **Newer File** (red): The file is newer than the other file and exists on both the remote and local site.
# (number)	The number of the file.
File Name	The full file name is displayed.
Size	The size of the file is displayed.
Created	The date and time of file creation are optionally displayed. This information is configured in the **Options** dialog box of the **Tools** menu (see Section 13.1).
Modified	The date and the time at which the file was last modified are optionally displayed. This information is configured in the **Options** dialog box of the **Tools** menu (see Section 13.1).
Read	The date and the time at which the file was last accessed are optionally displayed. This information is configured in the **Options** dialog box of the **Tools** menu (see Section 13.1).
Status	Indicates the checksum status: • **Signed**: Checksum is valid and the file has not been modified. • **Unsigned**: Checksum is invalid indicating that the file was modified without using a suitable editor or the checksum is not available.

4.4.2 Actions

- Double-click the highlighted file to open the appropriate editor and display the contents of the file.
- Right-click the highlighted file to open the context menu.
- Click < to copy a file from the remote site to the local path.
- Click > to copy a file from the local path to the remote site.
- Click × to delete files on either the local path or remote site, if permitted.

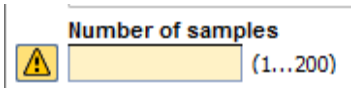
5 **Process Definition** Editor Tool

The **Process Definition** editor tool enables the creation or modification of process files (e.g., Assay Control Sets or Assay Parameter Sets).

5.1 General concepts

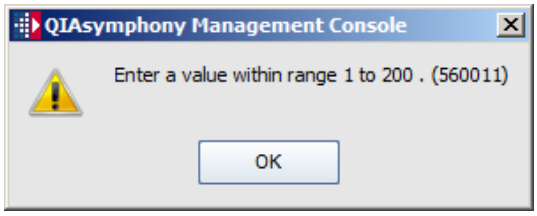
5.1.1 Displaying errors

If an error occurs, the parameter field is displayed in yellow. A warning symbol is also displayed.



Example of an error.

To see detailed information about the error, click the warning symbol.

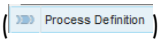


Example of an error message.

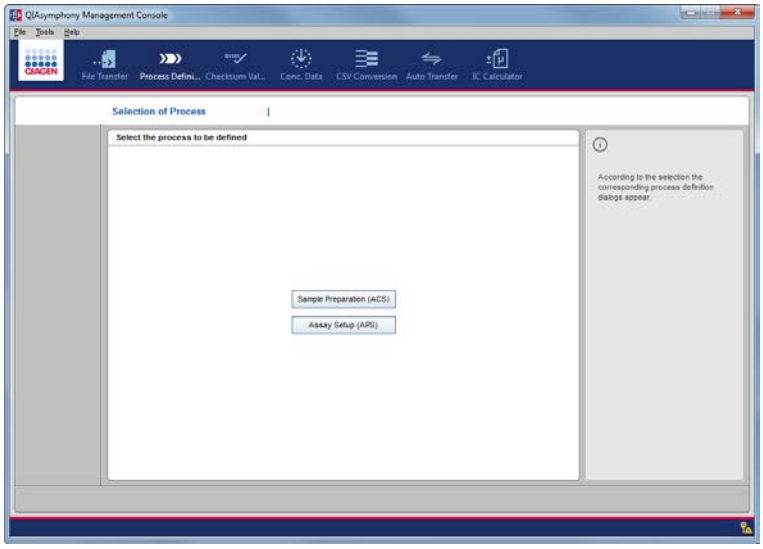
As soon as the error has been resolved, the parameter field returns to its original color.

If you are using the wizard to create a new process file, the **Next** button becomes available when all errors have been resolved.

5.1.2 Tool icon in the **Tool** list

The **Process Definition** editor tool can be accessed using either the corresponding item in the **Tools** list (

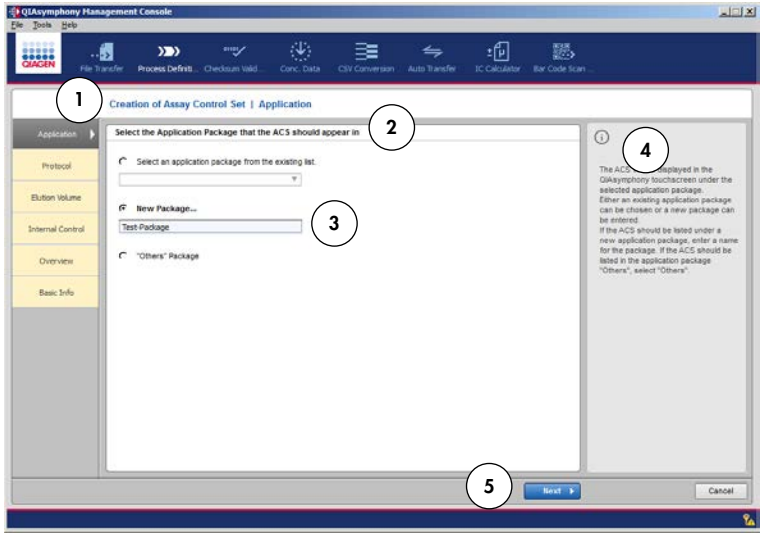
) or by selecting the appropriate file type in the **File Transfer** tool and pressing **Edit** or **New**.



To start defining the process file, select the process to be defined. The corresponding dialog box appears.

5.1.3 Structure of dialog boxes

All dialog boxes in the **Process Definition** editor tool have the same structure.



1 Dialog box name

2 Instruction

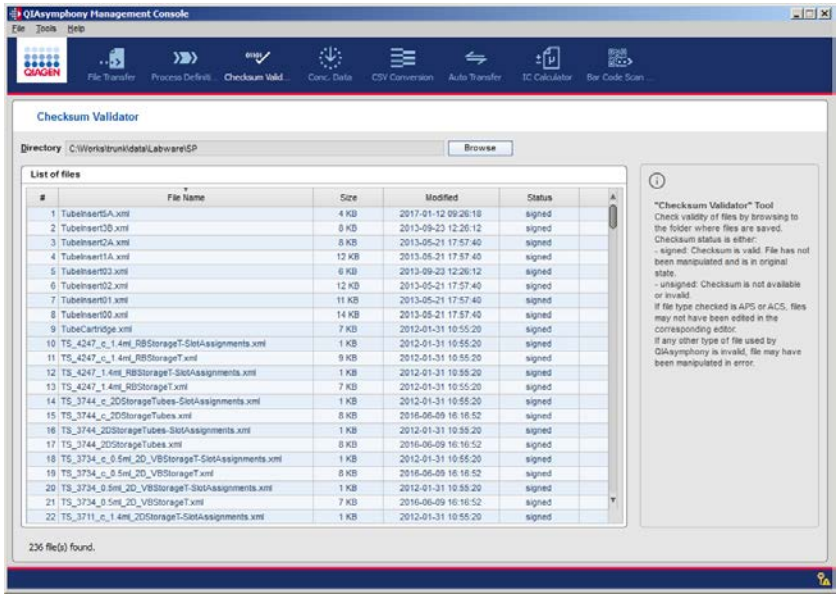
3 Parameter input

4 Information panel

5 Button bar

Dialog box name	The name of the dialog box is displayed.
Instruction	Displays short instructions.
Parameter input	Parameter input fields enable the requested information to be entered.
Information panel	Displays a short explanation of each parameter.
Button bar	**Back**, **Next**, **Cancel**, **Finish** and **Save** buttons may be displayed.
Back	This button allows you to return to a previous dialog box.
Next	This button allows you to go forward to the next dialog box. The button is enabled only when all required information has been correctly entered.
Cancel	This button allows you to close the dialog box without saving any changes. A message appears asking you to confirm the cancellation. Click **Yes** to close the dialog box.
Finish	If you are using the wizard to create a new process file, this button allows you to save the changes and exit the **Process Definition** editor tool. **Note**: If the user tries to close the QMC or tries to leave the current editor without having saved the data, there will be a warning message: **Data is not saved. Do you want to leave without saving?** • **Yes**: The message box disappears and the software switches to the chosen editor. The user may also close the QMC, although this leads to loss of unsaved data. • **No**: The user must finish the dialog before being able to leave the current editor.
Save	This button allows you to save the changes. In contrast to the **Finish** button, the dialog box remains enabled and you can create other new process files.

6 **Checksum Validator** Tool



The **Checksum Validator** tool provides the following for selecting a file.

Browse button	Button for opening the **Browse Directory** dialog box, which enables the folder in which the files are located to be selected.
Directory field	Field that displays the selected directory.
X file(s) found.	Indicates the total number of files listed in the main panel.

The results of the checksum validation for the selected file are displayed in the main panel. The local path is configured in the **Options** dialog box of the **Tools** menu (see Section 13.1).

#	The number of the file.
File Name	The full file name is displayed.
Size	The size of the file is displayed.
Created	The date and time of file creation are optionally displayed. This information is configured in the **Options** dialog box of the **Tools** menu (see Section 13.1).
Modified	The date and the time at which the file was last modified are optionally displayed. This information is configured in the **Options** dialog box of the **Tools** menu (see Section 13.1).

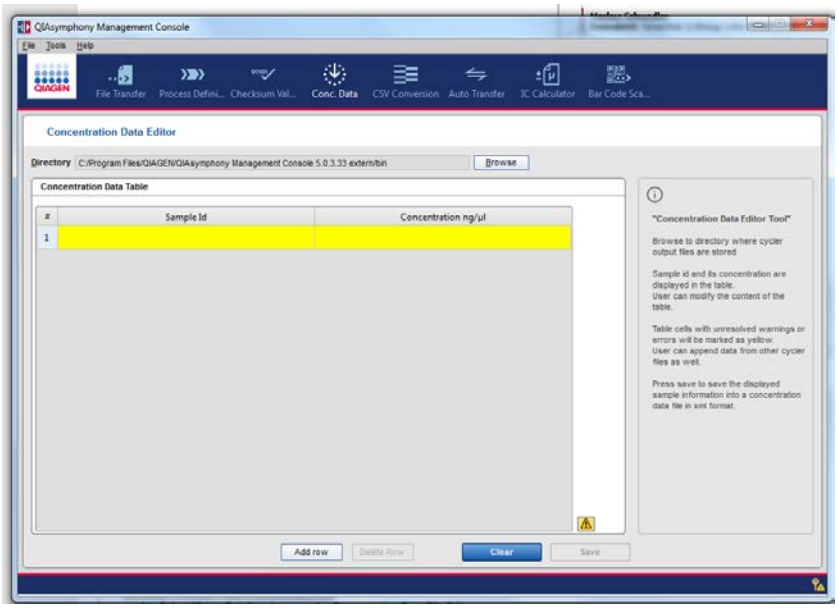
Read The date and the time at which the file was last accessed are optionally displayed. This information is configured in the **Options** dialog box of the **Tools** menu (see Section 13.1).

Status Indicates the checksum status:

- **Signed**: Checksum is valid and the file has not been modified.
- **Unsigned**: Checksum is invalid indicating that the file was modified without using a suitable editor or checksum is not available.

7 **Concentration Data Editor** Tool

The **Concentration Data Editor** converts cycler data files to QIAsymphony-compatible data files. It can also be used to manually create a concentration data file.



The **Concentration Data Editor** tool provides the following for selecting a file and displaying the data.

Browse button	Button for opening the **Browse Directory** dialog box, which enables the folder in which the files are located to be selected.
Directory field	Field that displays the selected directory where cycler output files are stored.
Concentration Data Table	Table for manual creation of concentration data files. The user manually enters the sample ID and the concentration data to the corresponding columns.
Add row	This button allows you to add additional rows.
Delete Row	This button allows you to remove the current row.
Save	This button allows you to finalize and save the concentration data file.

7.1.1 Manually create a concentration data file

1. Select **Conc. Data** to change to the **Concentration Data Editor**.
2. In the **Concentration Data Table**, click in the **Sample ID** field and enter an ID.
3. Change to the **Concentration ng/µl** field with the **Tab** key or by clicking in the field, then enter a concentration value.
4. To add a row, click **Add row**.
5. Repeat steps 2–3 for all needed sample/concentration values.
6. Click **Save** to save the file.

   The concentration data file is saved in directory **root\data\ConcentrationData** in *.xml format with the current time stamp (e.g., ConcentrationDataInput_YYYYMMDD_HHMMSS.xml).

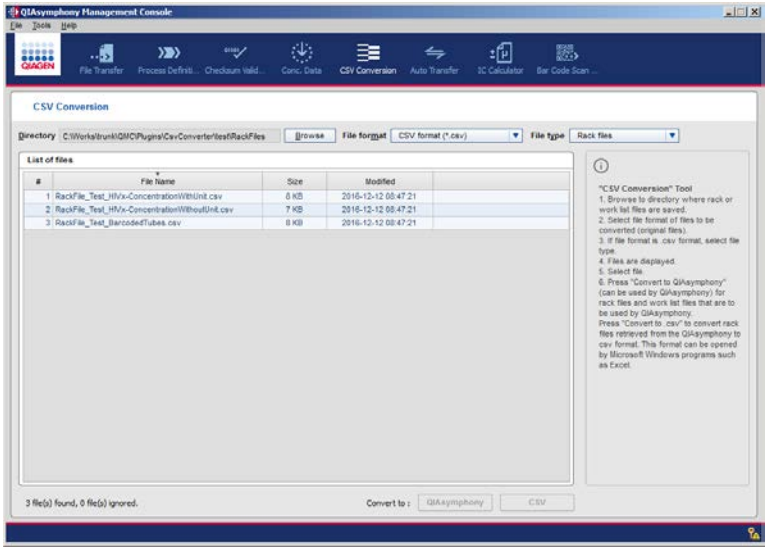
7.1.2 Convert a non-QIAGEN concentration data file

1. Click **Browse** to select the directory containing the concentration data file.
2. Click **Save**.

   The concentration file is converted to a QIAsymphony-compatible format and saved in directory **root\data\ConcentrationData**.

8 **CSV Conversion** Tool

The **CSV Conversion** tool enables the format conversion of *.csv and *.xml files.



The **CSV Conversion** tool provides the following for selecting a file and displaying the results.

X file(s) found, X file(s) ignored	Indicates the number of files that were found to correspond to the search criteria, and the number of files that did not correspond to the search criteria. The “found” files are listed in the main panel.
Directory field	The selected directory is listed.
Browse button	Opens the **Browse Directory** dialog box enabling the user to search for the folder in which the files are located.
File format drop-down menu	The available file formats are listed. Options for *.csv files (e.g., file extension and file delimiter) can be defined in the **Options** dialog box of the **Tools** menu (see Section 13.1).
File type drop-down menu	Available file types are listed. It is possible to convert rack files to both *.csv and *.xml format and work list files from *.csv to *.xml format.
#	The number of the file.
File Name	The full file name is displayed.

Size The file size is displayed.

Created The date and time of the file creation are displayed. This optional display is configured in the **Options** dialog box of the **Tools** menu (see Section 13.1).

Modified The date and time of the last modification of the file are displayed. This optional display is configured in the **Options** dialog box of the **Tools** menu (see Section 13.1).

Read The date and time the file was last accessed are displayed. This optional display is configured in the **Options** dialog box of the **Tools** menu (see Section 13.1).

Status The file status is displayed. The status of the file is always unknown.

Convert to:

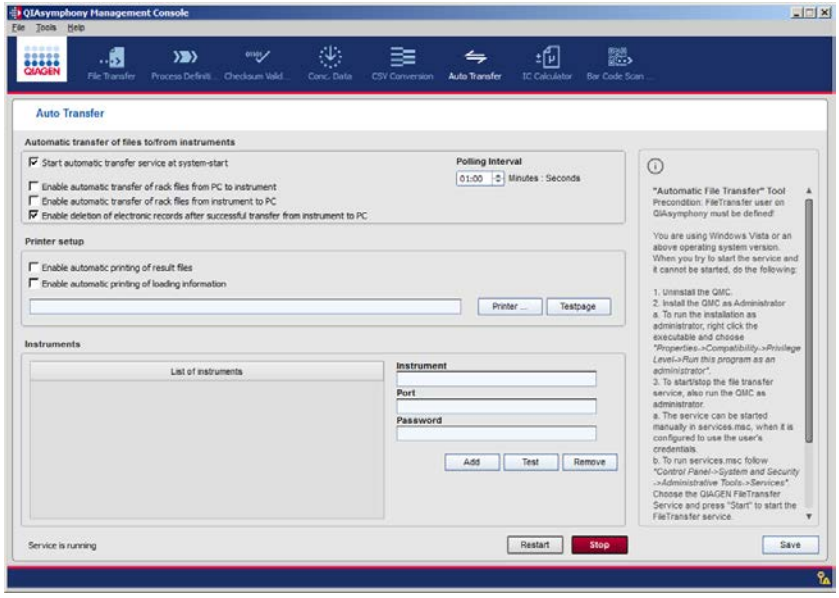
- **QIAsymphony**: Allows you to convert selected files in *.csv format to *.xml format.
- **CSV**: Allows you to convert the selected files in *.xml format to *.csv format.

9 **Automatic File Transfer** Tool

The **Automatic File Transfer** tool enables the configuration of automatic transfer of result and log files from the QIAsymphony to a predefined directory. Result, start batch confirmation, loading information and cycler files are transferred to the predefined directory. Result, start batch confirmation and loading information files are deleted after successful transfer. Cycler files are not deleted; they remain on the QIAsymphony after transfer. Log files are transferred to the predefined directory and remain on the QIAsymphony. In addition, the tool enables newly transferred result and loading information files to be automatically printed.

Note: Do not use the **Desktop** or any of the subdirectories in **My Documents** as the predefined directory. The **Automatic File Transfer** tool does not have read or write permission for these directories.

Note: To use a network directory, follow the procedure in Section 13.8.1. In the default configuration, the **Automatic File Transfer** tool does not have read or write permission for these directories.



Start automatic transfer service at system start

Check this box to enable the automatic startup of the **AutoFileTransfer** on starting Windows. By default, this parameter should be enabled.

Administrator rights are required for Windows to start or stop this service.

Polling Interval	Enter a time for the polling interval. This setting determines how often the QIAsymphony Management Console checks for availability of new files.
Enable automatic transfer of rack files from PC to instrument	Check this box to enable automatic transfer of rack files from PC to instrument
Enable automatic transfer of rack files from instrument to PC	Check this box to enable automatic transfer of rack files from instrument to PC
Enable deletion of electronic records after successful transfer from instrument to PC	When selected, the following electronic record file types on QIAsymphony will be deleted after successful transfer: • Work lists • StartBatchConfirmation (SP and AS) • Result files (SP and AS) • LoadingInformation • AuditTrail • QDef
Enable automatic printing of result files	Check this box to enable result files to be automatically printed.
Orientation	Select whether to print result files in landscape or portrait.
Enable automatic printing of loading information	Check this box to enable loading information files to be automatically printed.
Orientation	Select whether to print loading information files in landscape or portrait.
Printer	Click this button to display the **Print** screen, which contains the list of available printers, and select a printer.
Text field	The selected printer is displayed.
Testpage	Click to print a test page on the selected printer.
Instrument	Enter the hostname of the QIAsymphony SP, from which files should be automatically transferred.
Port	Enter the port of the connected QIAsymphony (port 80).

Password	Allows a password to be entered for the **FileTransfer** user. In order to manage the **FileTransfer** user and thus to configure its password: • Log in (on the QIAsymphony) as a user with the role "Supervisor". • Go to **Tools** and select **User Management**. • Select the user **FileTransfer** in the **Activated Users** selection and provide a password for it. Refer to "Getting Started", Section 5.2 of the *QIAsymphony SP/AS User Manual — General Description,* for detailed information about how to manage the user accounts and how to configure the password. This password does not expire but can be changed if required. The password can only be set by a user with the "Supervisor" user role.
List of instruments	Displays all configured instruments.
Add	Adds the automatic file transfer configuration to the instrument displayed in the **Instruments** dialog field.
Test	Tests the connection to the configured instrument.
Remove	Removes the selected instrument configuration from the list.
Text label "Service is running"	Indicates whether the **QIAGEN File Transfer** service is currently running.
Restart	Restarts the **QIAGEN File Transfer** service (button enabled when service is running)
Start	Starts the **QIAGEN File Transfer** service (button enabled when service is not running).
Stop	Stops the **QIAGEN File Transfer** service (button enabled when service is running).
Save	Saves configuration changes.

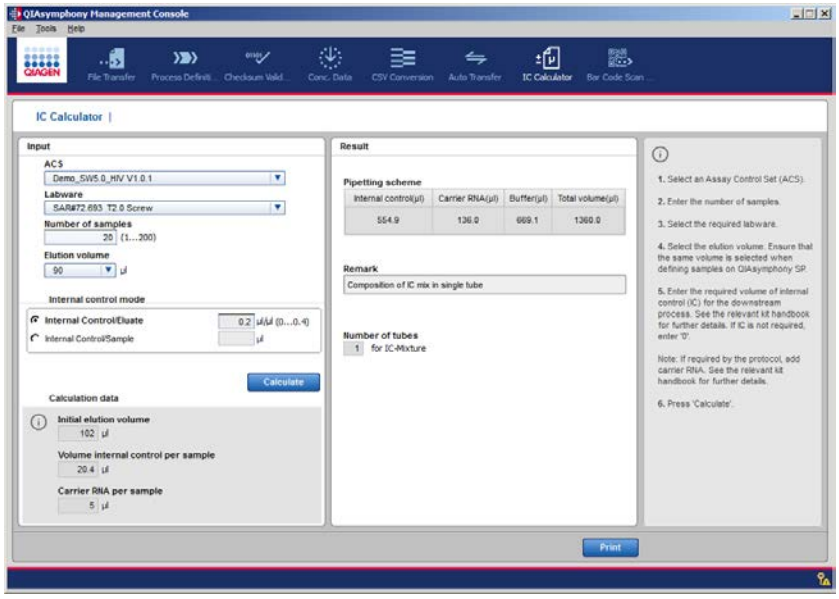
Note: After changing the root directory for the **Automatic File Transfer** tool, the **QIAGEN File Transfer** service must be stopped and restarted (see Section 15.4.3).

Note: The User Account Control (UAC) from Windows prevents use of the **Start/Stop** and **Restart** buttons. In this case, deactivate the UAC (contact Microsoft for more details about how to do this). If it is not possible to deactivate the UAC, or if you choose not to deactivate the UAC, you can start/restart the **QIAGEN File Transfer** service from within the Windows service configuration. To do this, the **QIAGEN File Transfer** service must be configured with actual user credentials, see Section 13.8.1.

10 **IC Calculator** Tool

The QIAsymphony **IC Calculator** enables calculation of the volume of reagent required to prepare the internal control-carrier RNA mixture in specific tubes (e.g., 2 ml Sarstedt® or 14 ml Corning® Tubes).

Note: If no internal control is used, a carrier RNA-buffer AVE mixture must be used (see "Calculating reagent volumes", Section 10.2).



10.1 Before using the **IC Calculator** tool

The following steps must be performed to enable the functionality of the **IC Calculator** tool.

1. Define the root directory (main directory) in the **File Transfer** tab of the **Options** dialog (page 49).
2. Transfer protocols and existing Assay Control Sets from the QIAsymphony to the corresponding subdirectories of the root directory (page 66).

10.2 Calculating reagent volumes

To calculate the required reagent volumes, proceed as follows:

1. Select the Assay Control Set that you want to use for processing the samples.
2. Enter the number of samples to be processed.
3. Select the labware to be used for internal control (IC).
4. Select whether you would like to specify the internal control volume per eluate or the internal control volume per sample.
5. If you chose to specify the internal control volume per eluate, select the elution volume, otherwise skip this step.

   When selecting the elution volume, ensure that the same volume is selected when defining samples on QIAsymphony SP.
6. Enter the required amount of internal control (IC) per sample/eluate that is needed for the downstream process. If IC is not required, enter "0".

   Note: Carrier RNA will automatically be added, if it is necessary for the respective protocol.
7. Press the **Calculate** button.
8. (Optional) Print the result of the calculation using the **Print** button to create a PDF that summarizes the calculation data.
9. Prepare the IC mixture as shown in the result.

   If multiple IC tubes are required, be sure to first prepare the mixture in one large tube and then dispense that mixture to the individual tubes. This ensures that the ratio of reagents is the same in every IC tube.

10.3 Structure of dialog box

10.3.1 **Input** panel

ACS	Assay Control Set to be used for processing the samples.
Number of samples	Number of samples to be processed with the IC-mixture.
Labware	Labware to be used for internal control (IC).
Elution volume	Elution volume to be produced by the QIAsymphony SP. Only selectable if **Internal Control/Eluate** is selected.
Internal Control/Eluate	The amount of internal control per eluate required for the downstream process.

Internal Control/ Sample	The amount of internal control per sample required for the downstream process.
Initial elution volume	The initial elution volume. Cannot be modified and is shown for information purposes.
Volume internal control per sample	The amount of internal control to be added to each sample by the QIAsymphony SP. Cannot be modified and is shown for information purposes.
Carrier RNA per sample	The amount of carrier RNA that will be added to each sample by the QIAsymphony SP. Cannot be modified and is shown for information purposes.
Calculate	Press to start the calculation.

10.3.2 **Result** panel

Pipetting scheme	Defines the volume of reagents that have to be pipetted for preparation of the IC mixture.
Remark	Shows additional advice for preparation of IC mixture.
Total dispense volume per single tube	Also shows the amount of IC-mixture that is to be dispensed into each individual IC tube.
Number of tubes	Defines the number of IC tubes that have to be loaded on the IC carrier.

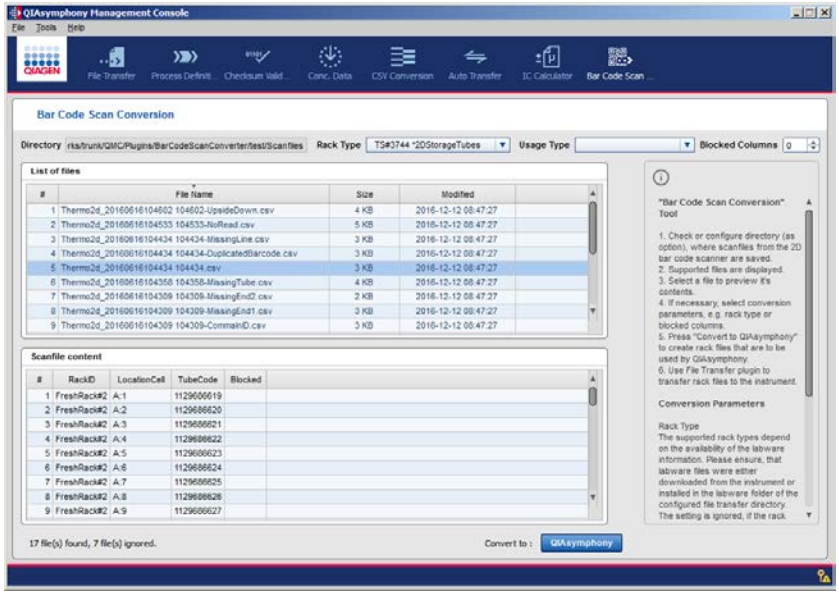
11 **Bar Code Scan Conversion** Tool

The QIAsymphony **Bar Code Scan Conversion** tool enables generation of a rack file from a bar code scan file to a predefined directory.

The tool is supported to scan 2D bar coded elution tubes in 96-well format as an eluate rack for SP, AS and integrated runs using an external rack reader or an alternative 2D bar code reader. (See Section 3.2.8 for more information.)

Note: Scan files can only be converted when all positions are loaded with tubes and there are no reading errors.

Note: It is possible to block the first columns of the rack file.



11.1 Before using the **Bar Code Scan Conversion** tool

The following steps must be performed to enable the functionality of the **Bar Code Scan Conversion** tool.

1. Transfer the labware file from the QIAsymphony to the corresponding subdirectory of the root directory (Section 15.1).
2. Define the root directory (main directory) in the **Bar Code Scan Conversion** tab of the **Options** dialog (Section 13.9).

11.2 Structure of dialog box

X file(s) found, X file(s) ignored	Indicates the number of files that were found to correspond to the search criteria, and the number of files that did not correspond to the search criteria. The "found" files are listed in the main panel.
Directory	The selected directory is listed.
Rack Type drop-down list	The available rack formats are listed. The option to set the default rack type can be defined in the **Options** dialog box of the **Tools** menu (see Section 13.9).
Usage Type drop-down list	The available usage types are listed. The option to set the default usage type can be defined in the **Options** dialog box of the **Tools** menu (see Section 13.9).
Blocked Columns	Sets the number of columns on the left-hand side of the rack, that were already processed and should therefore be ignored in the next SP run. These tubes can be reused on QIAsymphony AS by manually adjusting the appropriate volumes.
#	The number of the file.
File Name	The full file name is displayed.
Size	The file size is displayed.
Created	The date and time of the file creation are displayed. This optional display is configured in the **Options** dialog box of the **Tools** menu (see Section 13.1).
Modified	The date and time of the last modification of the file are displayed. This optional display is configured in the **Options** dialog box of the **Tools** menu (see Section 13.1).
Read	The date and time the file was last accessed are displayed. This optional display is configured in the **Options** dialog box of the **Tools** menu (see Section 13.1).
Convert to:	**QIAsymphony**: Allows you to convert selected files in *.csv format to rack files that are to be used by QIAsymphony.

12 Getting Started

To get the most out of the QMC and the tools that are included with it, we recommend that users follow the workflow described below.

Note: When a new version of the QMC is installed, the options settings from the previous version are kept. New tools must be configured separately.

1. Create a directory on your local PC or on the network (if several users need to work with the same data) that will be used as the main (root) directory for the **File Transfer** and **Process Definition** editor tools. We recommend naming the directory according to the host name of your QIAsymphony (default is qsspxxxx; where xxxx is the serial number of the QIAsymphony SP) to enable you to easily identify the data stored in this directory.
2. Optional: To use the **Automatic File Transfer** tool and print function, create a directory on your local PC or on the network (if several users need to work with the same data) in which the downloaded files (e.g., result files and trace files) for individual instruments will be saved.

   Note: Do not select the **Desktop** or any of the subdirectories listed in **My Documents** as the predefined directory. The **Automatic File Transfer** tool does not have read or write permission for these directories.

   Note: If you want to use a network directory as the root directory for the **Automatic File Transfer** tool, see the notes in Section 13.8.1.
3. Configure options for the QMC and tools. For more information, see Section 13.

   Note: When specifying the root directory for the **File Transfer** and **Automatic File Transfer** tools, browse to the directory created in step 1.
4. After configuring the options, a dialog box opens that asks whether the same directories as those on the QIAsymphony should be created in the root directory. Click **Yes** to create the same data structure in the root directory.

   If the data structure is already available, the dialog box is not displayed.
5. If you want to transfer result, loading information (QIAsymphony AS only), cycler (QIAsymphony AS only) or log files automatically from the QIAsymphony, or if you want to print the result and loading information (QIAsymphony AS only) files (only possible if the QIAsymphony is connected to a network), open the **Automatic File Transfer** tool and enter the required information.

   Note: If the PC is shut down, the automatic file transfer service is also shut down. The **File Transfer** service starts again automatically the next time the PC is switched on.

6. Optional: Transfer protocols (QIAsymphony SP only), Assay Control Sets (QIAsymphony SP only), assay definition files (QIAsymphony AS only), Assay Parameter Sets (QIAsymphony AS only), and labware files from the QIAsymphony to the corresponding subdirectories in the defined root directory.

   The **File Transfer** tool can be used for the transfer when the PC is connected to the QIAsymphony. Alternatively, a USB stick can be used if the QIAsymphony is not connected.

   Note: If the files are provided on a USB stick, use the **File Transfer** tool to transfer the data to the root directory. For more information, see Section 15.1.

7. Close the QMC and launch it again. The QMC is now ready for use.

13 Configuration

The appearance of the QMC and the way that information is displayed can be configured to suit user needs. Various settings for the QMC and associated tools can be configured in the **Options** dialog box of the **Tools** menu.

13.1 **Options** dialog

To change QMC settings, complete the following steps.

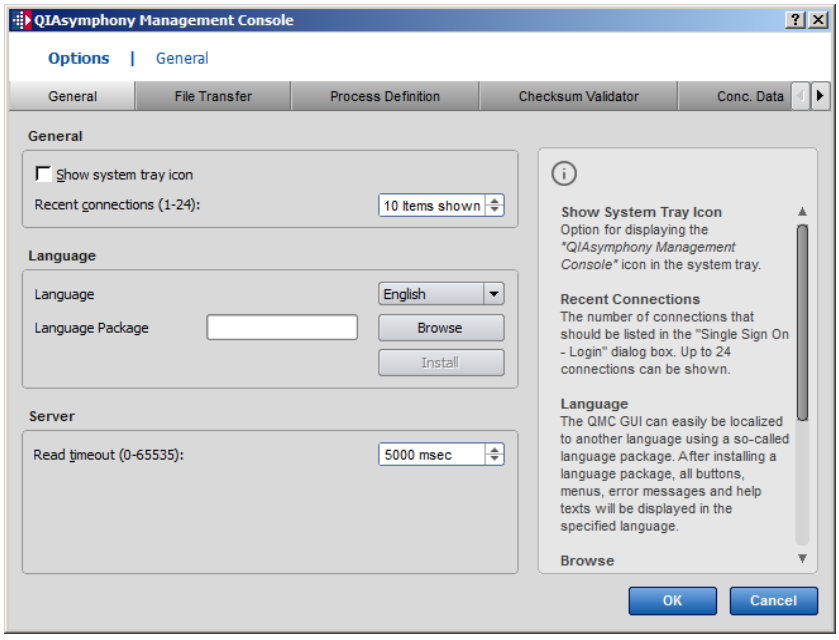
1. Select **Tools/Options**. The **Options** dialog is displayed.
2. Select the tab of the tool to be configured. The corresponding parameters appear.
3. Change the settings according to your needs.
4. Click **OK**.

The following buttons are available in the **Options** dialog.

OK	Closes the dialog and saves the changes.
Cancel	Closes the dialog without saving the changes.

The **Options** dialog provides a **General** tab, as well as a tab for each of the available tools (except the I**C Calculator**). The tabs are described in detail below.

13.2 **General** tab



13.2.1 **General** panel

Show system tray icon	Checkbox for displaying the QIAsymphony Management Console icon in the system tray.
Recent connections	The number of connections that should be listed in the **Single Sign On – Login** dialog box. Up to 24 connections can be shown.

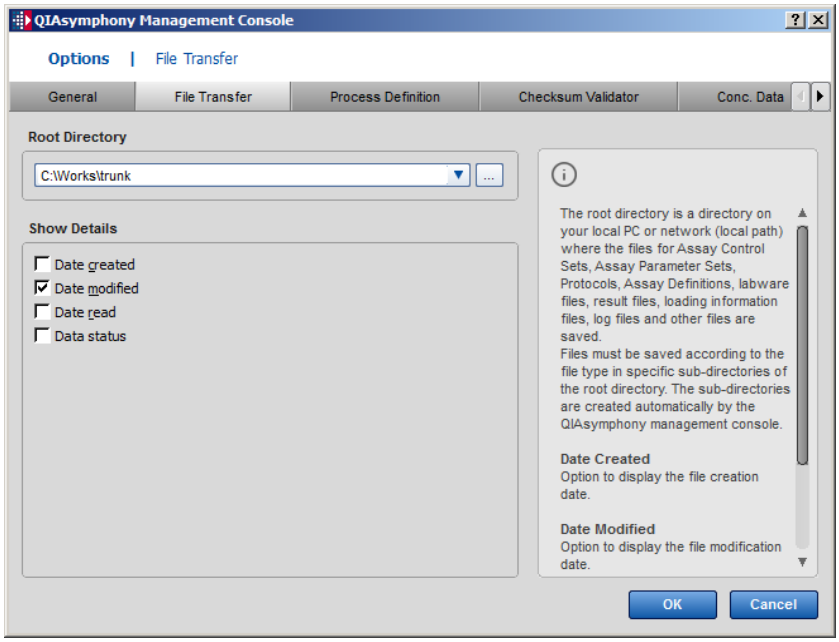
13.2.2 Language panel

Language	Drop-down menu showing the current and selected language.
Language Package	**Browse** button to select different language package.

13.2.3 **Server** panel

Read timeout	The number of milliseconds before a timeout occurs due to an unfinished remote read operation.

13.3 **File Transfer** tab



13.3.1 **Root Directory** panel

Enables the user to browse for a root directory.

The root directory is a directory on your local PC or network (local path) where the files for Assay Control Sets, Assay Parameter Sets, protocols, assay definitions, labware files, result files, loading information files, log files and other files are saved. Files must be saved according to the file type in specific subdirectories of the root directory (see table below). The subdirectories are created automatically by the QMC.

Note: If the maximum number of files is exceeded in one of the subfolders, the performance of the QMC may be affected. Therefore, it is recommended to move the files (e.g., log files) to a backup folder if many files have been accumulated.

The **Root Directory** panel has the following features:

- A selection field that enables selection of previously used directories for the local path. The selected directory is displayed.
- A browse button that enables the user to search for the root directory (local path).

File folders in the root directory for the File Transfer tool

Directory	File type
root\data\AssayControlSets	Assay Control Set
root\data\AssayDefinitions	Assay definitions
root\data\AssayDefinitions_backup	
root\data\AssayParameterSetReports	Assay Parameter Set reports
root\data\AssayParameterSets	Assay Parameter Sets
root\data\AssayParameterSets_backup	
root\data\BioScripts	Protocol
root\data\ConcentrationData	Concentration files
root\data\config\Maintenance	Process configuration maintenance
root\data\config\Profiles	Process configuration profiles
root\data\Duration\AS	Duration files AS
root\data\Duration\SP	Duration files SP
root\data\ICCalculatorReports	IC calculator reports
root\data\Labware\AS	Labware AS
root\data\Labware\SP	Labware SP
root\data\Labware\NormalizationDefinitions	Normalization definitions
root\data\Labware\ProtocolNotFinished	Protocol not finished
root\data\Labware\QDefFiles	QDef
root\data\RackFiles	Rack files
root\data\ReagentDefinitions	Reagent definitions
root\data\ServiceScripts\AS\Developer	Service scripts developer AS
root\data\ServiceScripts\AS\Maintenance	Service scripts maintenance AS
root\data\ServiceScripts\AS\Operator	Service scripts operator AS
root\data\ServiceScripts\AS\Service	Service scripts service AS

Table continued next page

Table continued

Directory	File type
root\data\ServiceScripts\SP\Developer	Service scripts developer SP
root\data\ServiceScripts\SP\Maintenance	Service scripts maintenance SP
root\data\ServiceScripts\SP\Operator	Service scripts operator SP
root\data\ServiceScripts\SP\Service	Service scripts service SP
root\data\Users	User management
root\data\Worklists	Work list files
root\log	Log files
root\log\AuditTrail	Audit Trail files
root\log\CyclerExport	Cycler files
root\log\InstrumentReports	Instrument report files
root\log\LoadingInformation	Loading information files
root\log\Record\AS	Record files AS
root\log\Record\SP	Record files SP
root\log\Results\AS	Result files AS
root\log\Results\SP	Result files SP
root\log\StartBatchConfirmation\AS	Start batch confirmation files AS
root\log\StartBatchConfirmation\SP	Start batch confirmation files SP

13.3.2 **Show Details** panel

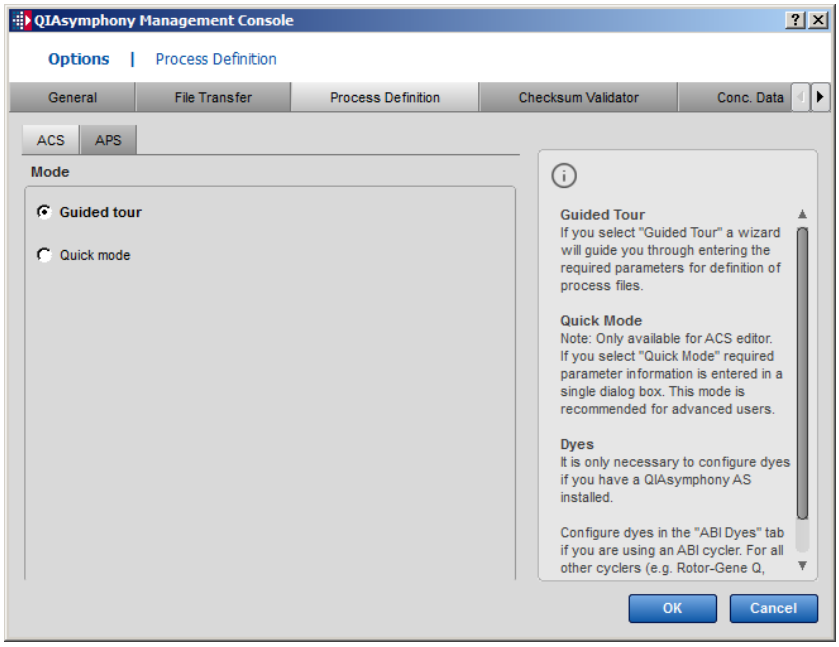
Date created Option to display the file creation date.

Date modified Option to display the file modification date.

Date read Option to display the file access date.

Data status Option to validate the listed files and display the validation result.

13.4 **Process Definition** tab



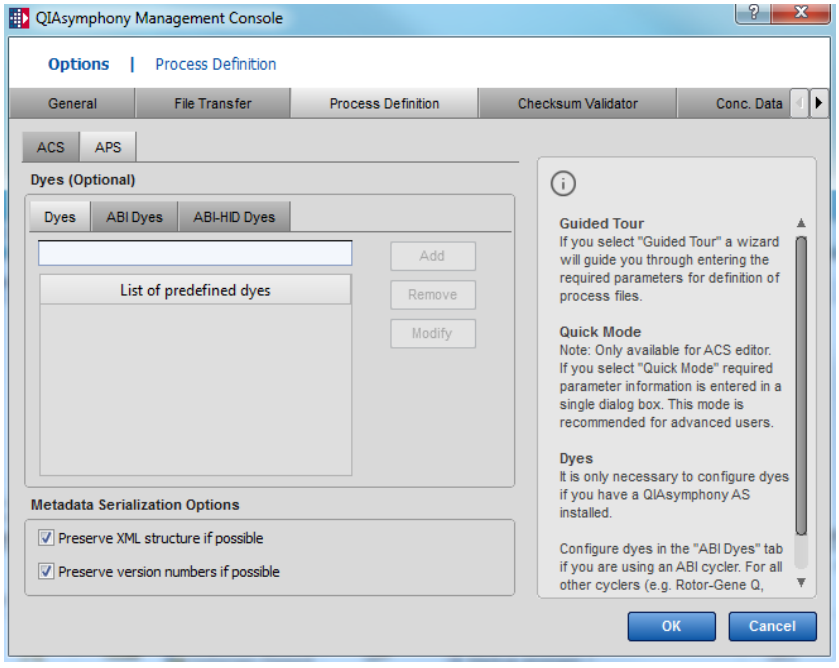
In the **Options/Process Definition** dialog, the **ACS** and **APS** tabs can be selected for adjusting the options of the Assay Control Set or Assay Parameter Set editor.

13.4.1 **ACS** tab

Mode

Guided tour	Select this option to create new process files using a wizard to guide you through each step.
Quick mode	Select this option to create new process files without using a wizard. This mode is only recommended for advanced users.

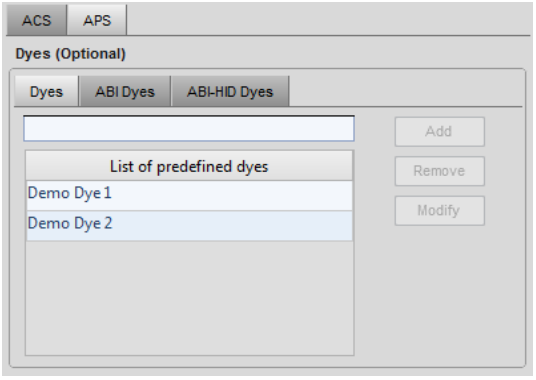
13.4.2 **APS** tab



For Assay Parameter Set definition, the following can be configured:

Dyes text fields — Within tabs: **Dyes**, **ABI Dyes** and **ABI-HID Dyes**.

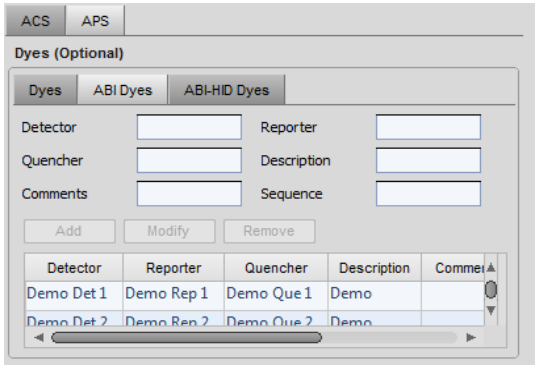
Dyes tab — The table shows a list of all preconfigured dyes. To add a dye, enter one or more dye(s) in the text field.



ABI Dyes tab

To add one or more dyes to the preconfigured dyes in the table, use the entry form to define **Detector** and **Reporter**. The entries for **Quencher**, **Description**, **Comments**, and **Sequence** are optional.

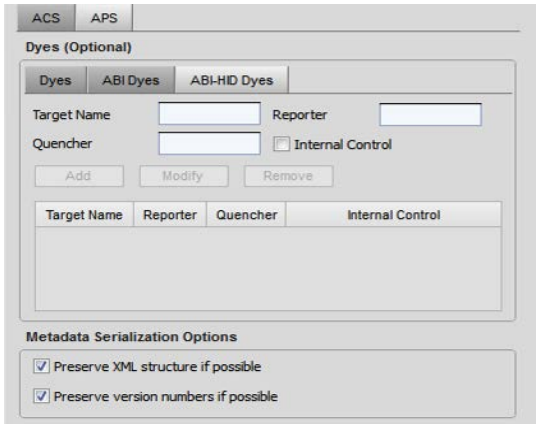
The table below the entry form displays the defined dyes for **ABI Dyes**.



ABI-HID Dyes tab

To add one or more dyes to the preconfigured dyes in the table, use the entry form to define **Target Name** and **Reporter**. The entries for **Quencher** and **Internal Control** are optional.

The table below the entry form displays the defined dyes for ABI-HID Dyes.



Add button

In the **Dyes** tab: Adds text displayed in the **Dyes** text field.

In the **ABI Dyes** tab and **ABI-HID Dyes** tab: Adds the defined form entries to the dyes table stated below.

Note: In all tabs, the **Add** button will be enabled as soon as text is entered in the entry fields in a proper form.

Remove button

Remove the selected dye text(s) from the list.

Modify button	Modify the entry for the selected dye(s) displayed in the **Dyes** text field in the **Dyes** tab or in the dyes table in the **ABI Dyes** tab and **ABI-HID Dyes** tab.

It is optional when using the QIAsymphony AS to enter dyes used in the assays to be processed.

Steps in the Dyes tab

To add a dye:

1. Enter the name(s) of the dye(s) in **Dyes**.

   Note: If several dyes ("dye combination") should be entered, use a comma to separate the different dyes. Example: "Dye 1, Dye 2"
2. Press **Add**.

To change one of the predefined dyes or dye combinations:

1. Select the dye or dye combination from the list. The corresponding text appears in the text field.
2. Modify the text.
3. Press **Modify**. The changed dye or dye combination appears in the list.

To remove predefined dyes or dye combinations:

1. Select the dye or dye combination from the list. The corresponding text appears in the text field.
2. Press **Remove**. A dialog box appears, confirming the modification.
3. Press **Yes**.

Steps in the ABI Dyes and ABI-HID Dyes tabs

To add a dye:

1. Use the entry form to define one dye's **Detector**, **Reporter** and **Target Name**. The entries for **Quencher**, **Description**, **Comments** and **Sequence** are optional.

   Note: The entries for **Detector** and **Reporter** must be unique.
2. Press **Add**.

   The table below the entry form displays the defined dye.

To change defined dyes:

1. Select the dye in the table. The corresponding entries for the selected dye appear in the entry form above the table.

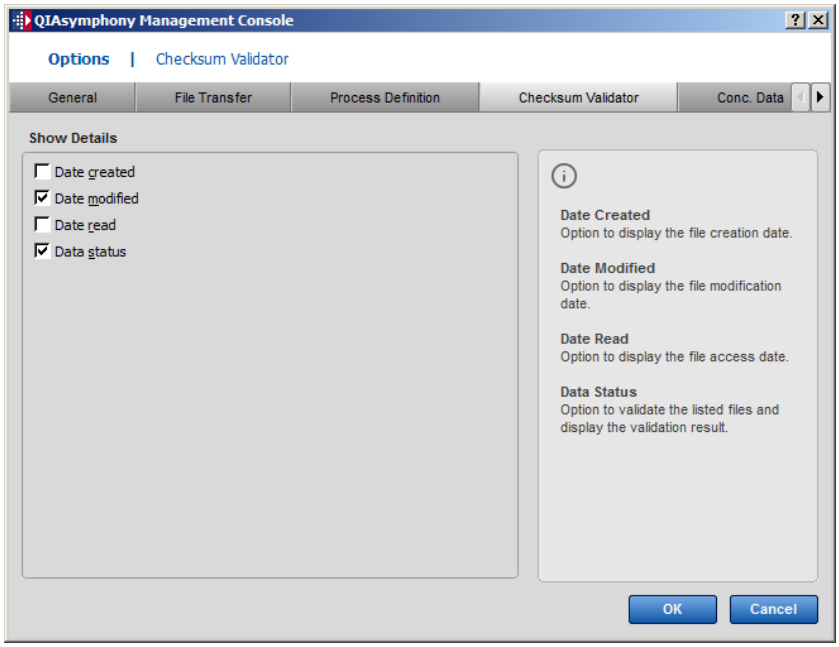
2. Modify the entries within the entry form.
3. Press **Modify**.

   The entries of the selected dye within the table will turn into the values entered in the dedicated form fields.

To remove predefined dyes:

1. Select the table row with the dye to be removed. The corresponding text appears in the entry form.
2. Press **Remove**. A dialog box appears, confirming the modification.
3. Press **Yes**.

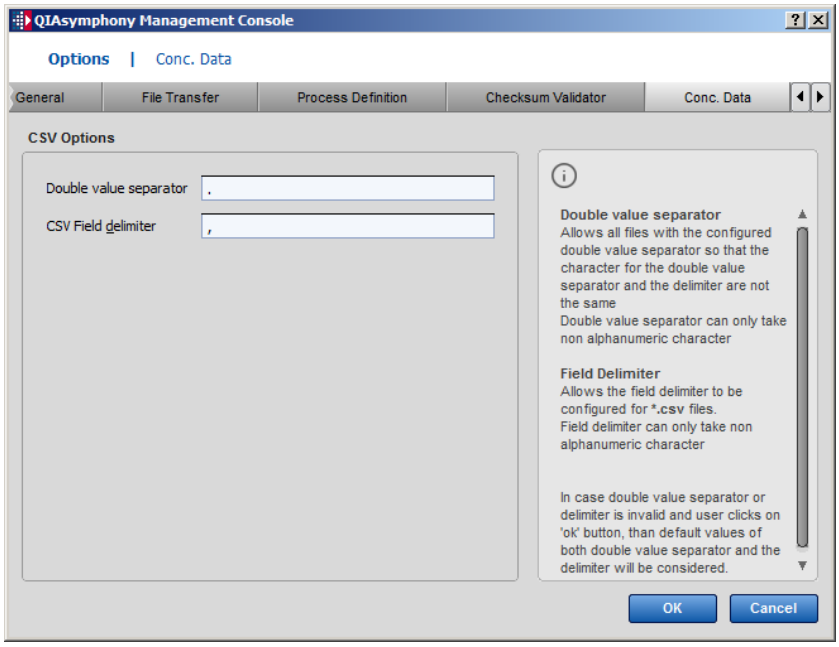
13.5 **Checksum Validator** tab



13.5.1 **Show Details** panel

Date created	Option to display the file creation date.
Date modified	Option to display the file modification date.
Date read	Option to display the file access date.
Data status	Option to validate the listed files and display the validation result.

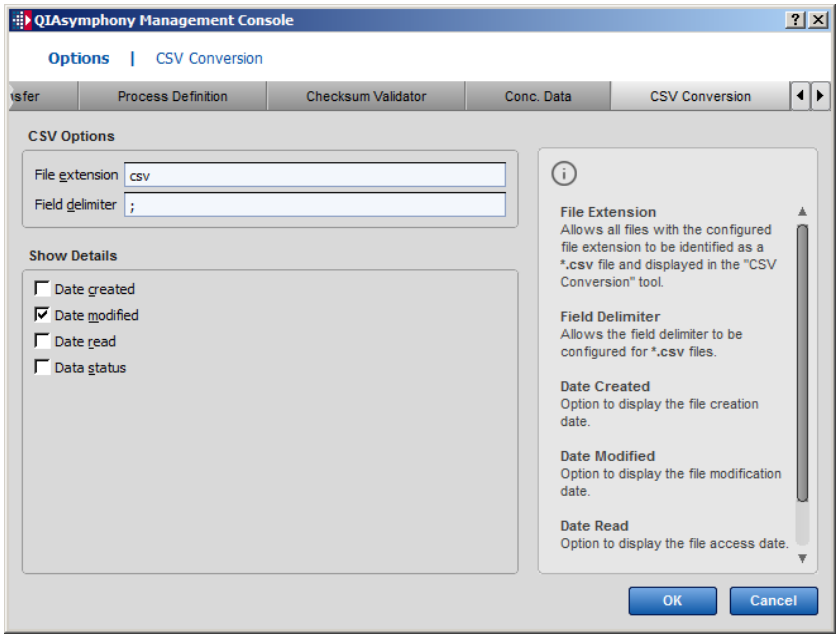
13.6 **Conc. Data** tab



13.6.1 **CSV Options** panel

Double value separator	Allows all files with the configured double value separator so that the character for the double value separator and the delimiter are not the same.
CSV Field delimiter	Allows the field delimiter to be configured for *.csv files.

13.7 **CSV Conversion** tab



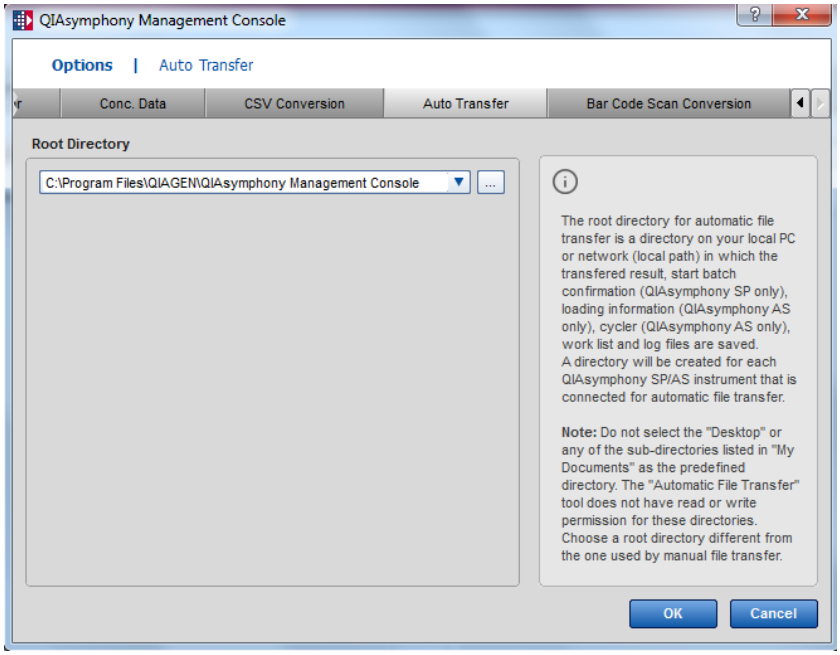
13.7.1 **CSV Options** panel

File extension	Allows all files with the configured file extension to be identified as a *.csv file and displayed in the **CSV Conversion** tool.
Field delimiter	Allows the field delimiter to be configured for *.csv files.

13.7.2 Show Details panel

Date created	Option to display the file creation date.
Date modified	Option to display the file modification date.
Date read	Option to display the file access date.
Data status	Option to validate the listed files and display the validation result.

13.8 **Auto Transfer** tab



13.8.1 **Root Directory** panel

Enables the user to browse for a root directory.

The root directory for automatic file transfer is a directory on your local PC or network (local path) in which the transferred files are saved. A directory will be created for each QIAsymphony instrument that is connected for automatic file transfer.

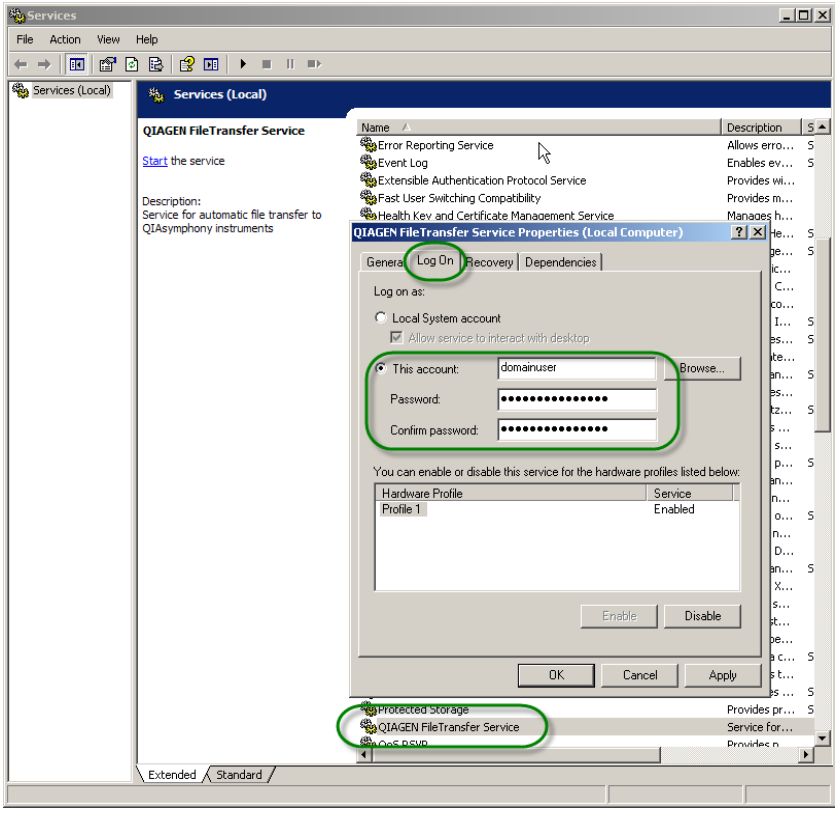
Note: Do not select the **Desktop** or any of the subdirectories listed in **My Documents** as the predefined directory. The **Automatic File Transfer** tool does not have read or write permission for these directories.

Note: Depending on your local IT setup, it may be necessary to proceed as follows if you want to save transferred files to a network directory.

1. The domain administrator should:
   - Establish an account for a domain user (you may need to contact your local IT administrator).
   - Configure the remote file system to be fully accessible via the domain user.

2. Configure the service to run as the domain user:

- Open the Windows service configuration in **Settings/Control Panel/Administrative Tools/Services**.
- Locate the **QIAGEN File Transfer** service and open its properties.
- Enter the user and password of the domain account in the **Log On** tab.

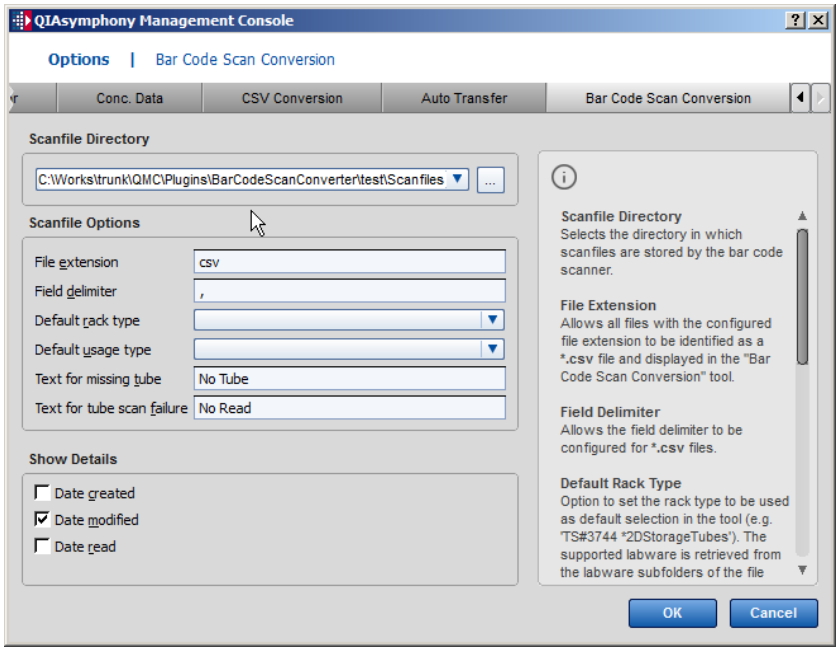


3. Enter the path to the network directory in the form **\\<server>\<shared_folder>\<subpath>** as root directory in the **Auto Transfer** tab of the QMC options dialog.

   Note: The shared file system cannot be accessed via the "letter" of a mapped drive (e.g., Z:\), and therefore use the full name of the drive, to be specified in the form **\\<server>\<shared_folder>\<subpath>**, either manually or by selecting it from the network environment.

Directory	Content
<root directory>\instruments\ <instrument id> \import\Results\AS	Result files downloaded from the QIAsymphony AS that have not yet been printed
<root directory>\instruments\<instrument id> \import\Results\SP	Result files downloaded from the QIAsymphony SP that have not yet been printed
<root directory>\instruments\<instrument id> \import\LoadingInformation	Loading information files downloaded from the QIAsymphony AS that have not yet been printed
<root directory>\instruments\<instrument id> \import\Results\AS\printed	Result files downloaded from the QIAsymphony AS that have been successfully printed
<root directory>\instruments\<instrument id> \import\Results\SP\printed	Result files downloaded from the QIAsymphony SP that have been successfully printed
<root directory>\instruments\<instrument id> \import\LoadingInformation\printed	Loading information files downloaded from the QIAsymphony AS that have been successfully printed
<root directory>\instruments\<instrument id> \import\Logfiles	Log files
<root directory>\instruments\<instrument id> \import\CyclerExport	Cycler files, exported from the QIAsymphony AS **Note**: Not applicable for Rotor-Gene AssayManager®
<root directory>\instruments\<instrument id> \import\StartBatchConfirmation\SP	Start batch confirmation files downloaded from the QIAsymphony SP
<root directory>\instruments\<instrument id> \import\StartBatchConfirmation\AS	Start batch confirmation files downloaded from the QIAsymphony AS
<root directory>\instruments\<instrument id> \export\Worklists	Work lists
<root directory>\instruments\<instrument id> \failed	Files for which upload failed
<root directory>\instruments\<instrument id> \sent	Files for which upload succeeded

13.9 **Bar Code Scan Conversion** tab



13.9.1 **Scanfile Directory** panel

Enables the user to select the directory where scanfiles are stored by the bar code scanner.

13.9.2 **Scanfile Options** panel

File extension	Allows all files with the configured file extension to be identified as a *.csv file and displayed in the **CSV Conversion** tool.
Field delimiter	Allows the field delimiter to be configured for *.csv files.
Default rack type	Option to set the rack type to be used as default selection in the tool (e.g., "TS#3744 *2DStorageTubes"). The supported labware is retrieved from the labware subfolders of the file transfer plug-in directory root.
Default usage type	Option to set the usage type to be used as default selection in the tool (e.g., "Eluate" for Eluate Racks on SP or AS).

Text for missing tube	Option to set the fixed text used as tube bar code by the scanner, when no tube was recognized.
Text for tube scan failure	Option to set the fixed text used as tube bar code by the scanner, when the bar code was not readable.

13.9.3 **Show Details** panel

Date created	Option to display the file creation date.
Date modified	Option to display the file modification date.
Date read	Option to display the file access date.

14 Logging In and Connecting

To enable remote access to the QIAsymphony, you must log in to the QMC and connect with the QIAsymphony via the network. The QIAsymphony can be connected via the local network or can be connected directly to a stand-alone PC which is not connected to the local network.

To connect to the QIAsymphony using a stand-alone PC, a crossover network cable is required. In addition, the QIAsymphony configuration must be modified. This can be done by QIAGEN Field Service or by a user with supervisor rights (the support of a local IT administrator may be required). For more information, see "System settings", Section 6.1.5 of the *QIAsymphony SP/AS User Manual — General Description*.

The network properties of the local PC should be set to:

- Internet protocol: Enter a specific IP address
- Net mask: 255.255.255.0

Note: You can only connect to the QIAsymphony when it is switched on.

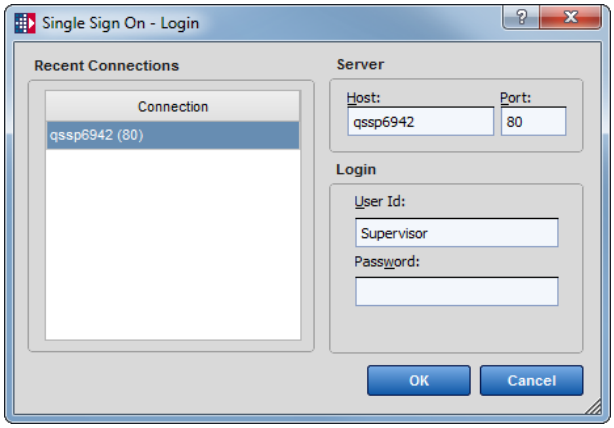
To log in, complete the following steps.

1. Switch on the QIAsymphony and launch the QMC.
   For more information, see Section 2.5.
2. Select **File/Login**.
   The **Single Sign On – Login** dialog box appears.
3. Enter the host name and the port (port 80) for the QIAsymphony or, alternatively, select one of the recent connections listed in the dialog box.
4. Enter your user name and password.
   Note: When the QMC is connected to the QIAsymphony, the user names and passwords that are valid on the QIAsymphony can also be used to log into the QMC.
5. Click **OK**.

14.1 **Single Sign On – Login** dialog box

The **Single Sign On – Login** dialog box enables the user to gain access to all tools (except the **Automatic Transfer** tool) by logging in just once.

Note: A separate login procedure must be followed to gain access to the **Automatic File Transfer** tool (see Section 3.2.6).



Single Sign On – Login dialog box.

14.1.1 **Recent Connections** panel

Connection	Previous connections are displayed. The maximum number of connections displayed is configured in the **Options/General** dialog box of the **Tools** menu (see Section 13.1).

14.1.2 **Server** panel

Host	Enter the host name or the IP address of the QIAsymphony to which you want to connect.
Port	Enter the number of the connection port (port 80).

14.1.3 **Login** panel

User Id	Enter your user name. The same user ID that is valid on the QIAsymphony is also valid for the QMC.
Password	Enter your password. The same password that is valid on the QIAsymphony is also valid for the QMC.

Buttons

OK	Closes the dialog box and saves the changes.
Cancel	Closes the dialog box without saving the changes.

15 Managing Files

15.1 Using the **File Transfer** tool via a connection

The **File Transfer** tool allows files to be transferred between the QIAsymphony and the local path on the PC or network using a connection.

15.1.1 Downloading files from the QIAsymphony

Files can be downloaded from the QIAsymphony to the local path on the PC or network using the **File Transfer** tool.

To download files, complete the following steps.

1. Log in to the QMC and connect to the QIAsymphony using your user account (see Section 14.1).
2. Select the remote site of the QIAsymphony where the files to download are located.
3. Select the type of file to download. All available files of the selected type are listed.
4. Highlight the file(s) to copy to the local path or network, and click . The file that is copied appears in the local path file list.

Note: Result files and loading information files are stored in zip format on the QIAsymphony. When using the **Automatic File Transfer** or **File Transfer** tool, they are automatically saved as *.htm and *.xml files in the appropriate folders.

15.1.2 Uploading files to the QIAsymphony

Files can be uploaded to the QIAsymphony from the local path on the PC or network using the **File Transfer** tool.

To upload files, complete the following steps.

1. Log in to the QMC and connect to the QIAsymphony using your user account (see Section 14.1).
2. Select the remote site of the QIAsymphony where the files will be uploaded.
3. Select the type of file to be uploaded. All available files of the selected type are listed.
4. Highlight the file(s) to be copied to the QIAsymphony, and click . The file that is copied appears in the remote site file list.

15.2 Transferring files using a USB stick

The **File Transfer** tool allows files to be transferred between the local path on the PC or network and a USB stick.

As soon as a USB stick that does not have a data directory is connected to the PC, a message will appear asking whether the same data structure as in the root directory should be created on the USB stick. Click **Yes** to automatically create the data directory with subdirectories on the USB stick.

15.2.1 Uploading files to a USB stick

Files can be transferred from the local path on the PC or network to a USB stick using the **File Transfer** tool.

1. Insert the USB stick into the USB port of the PC.
2. Optional: If a message appears asking whether the data directory should be created, click **Yes**.
3. Select the path of the USB stick in the remote site list.
4. Select the type of file to be uploaded. All available files of the selected type are listed.
5. Highlight the file(s) to be copied to the USB stick in the local path file list, and click . The file is copied to the USB stick and appears in the remote site list.

15.2.2 Downloading files from a USB stick

Files can be downloaded from a USB stick to the local path on the PC or network using the **File Transfer** tool.

Note: Make sure that the defined data directory and subdirectories have been created on the USB stick (see Section 13.3).

1. Insert the USB stick into the USB port of the PC.
2. Select the path of the USB stick as remote site.
3. Select the type of file to download. All available files of the selected type are listed.
4. Highlight the file(s) to be copied from the USB stick in the remote site file list, and click . The file is copied to the local path and appears in the local path file list.

15.3 Deleting files using the **File Transfer** tool

Files can be deleted from a USB stick, the local path or network or the QIAsymphony using the **File Transfer** tool.

Note: To avoid loss of data, take care when handling files on the QIAsymphony.

1. Log in to the QMC and connect to the QIAsymphony using your user account (see Section 14.1).
2. Select the type of file to be deleted. All available files of the selected type are listed.
3. Highlight the file(s) to be deleted either on the local path or network or the remote site, and click ✕.

   A message is displayed to confirm the deletion. After confirmation, the file is deleted from the selected site and no longer appears in the file list.

15.4 Automatic printing and file transfer using the **Auto Transfer** tool

15.4.1 Automatic printing of result and loading information files

The **Automatic File Transfer** tool can be configured to automatically print result and loading information files (QIAsymphony AS only) as soon as they become available. To use this tool, the QIAsymphony must be connected to a network and switched on.

1. Log in to the QMC and connect to the QIAsymphony using your user account. For more information, see Section 14.1.
2. Launch the **Automatic File Transfer** configuration tool by selecting the corresponding icon in the tools list.
3. Check **Enable automatic printing of result files**.
4. Optional: Select whether to print result files in landscape or portrait format.
5. When using the QIAsymphony AS, check **Enable automatic printing of loading information**.
6. Optional: Select whether to print loading information files in landscape or portrait.
7. Browse to select the printer on which the files should be printed.
8. Optional: Print a test page.
9. Configure the settings for the instrument from which the files should be automatically transferred. Enter the host name, port and the corresponding password for the "FileTransfer" user.

   The password must be configured on the QIAsymphony (see "Password" in Section 9).

   Refer to "Getting Started", Section 5.2 of the *General Description*, for detailed information about how to manage the user accounts and how to configure the password.

10. Click **Add**.

11. Optional: Test the connection to the QIAsymphony by clicking **Test**.

Note: If the PC is shut down, the automatic file transfer service is also shut down. The **File Transfer** service starts again automatically the next time the computer is turned on.

15.4.2 Automatic transfer of files

The **Automatic File Transfer** tool can be configured to transfer rack, result, loading information, cycler, start batch confirmation and log files automatically to a predefined directory. The zipped files are automatically extracted. In addition, available work lists can be uploaded to the QIAsymphony automatically.

1. Log in to the QMC and connect to the QIAsymphony using your user account (see Section 14.1).
2. Launch the **Automatic File Transfer** tool by selecting the corresponding icon in the tools list.
3. Configure the parameters for the instrument from which the files should be automatically transferred. Enter the host name, port and the corresponding password for the "FileTransfer" user.
4. Click **Add**.
5. Optional: Test the connection to the QIAsymphony by clicking **Test**.

Note: If the PC is shut down, the automatic file transfer service is also shut down. The **File Transfer** service starts again automatically the next time the computer is turned on".

Note: If a work list with the same name already exists, it will be overwritten by the automatic file transfer.

Note: It is not possible to delete a work list from the instrument via automatic file transfer. To neutralize a work list, overwrite the work list by a work list without sample information.

15.4.3 Restarting the **QIAGEN File Transfer** service

After changing the root directory for the **Automatic File Transfer** tool the user must restart the **QIAGEN File Transfer** service.

To restart the **QIAGEN File Transfer** service:

1. Open the **Automatic File Transfer** tool.
2. Press **Restart**.

To stop the **QIAGEN File Transfer** service:

1. Open the **Automatic File Transfer** tool.
2. Press **Stop**.

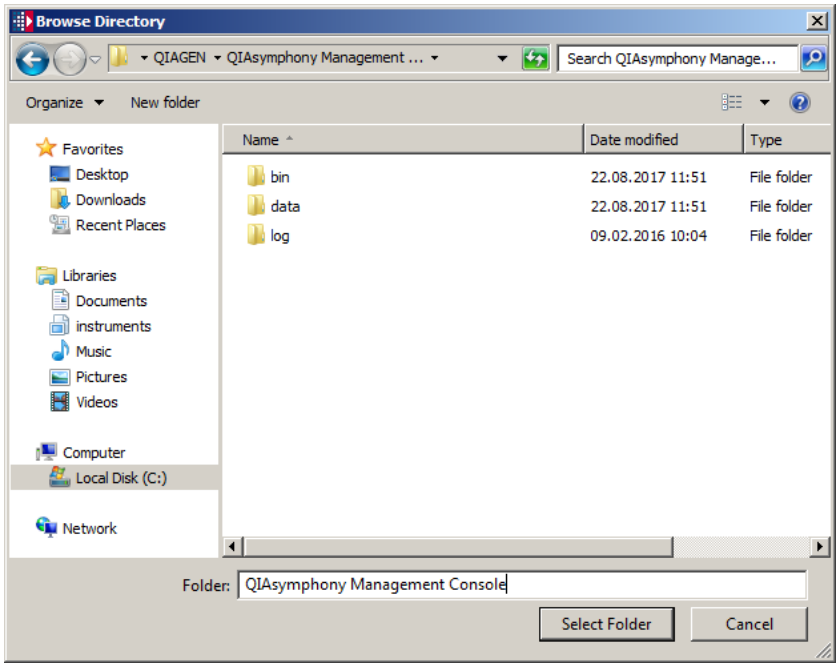
Note: Shutting down the QMC does not stop the **Automatic File Transfer** tool. To stop the **Automatic File Transfer** tool, you must either shut down the PC or stop the tool directly in the QMC.

15.5 Checksum validation using the **Checksum Validator** tool

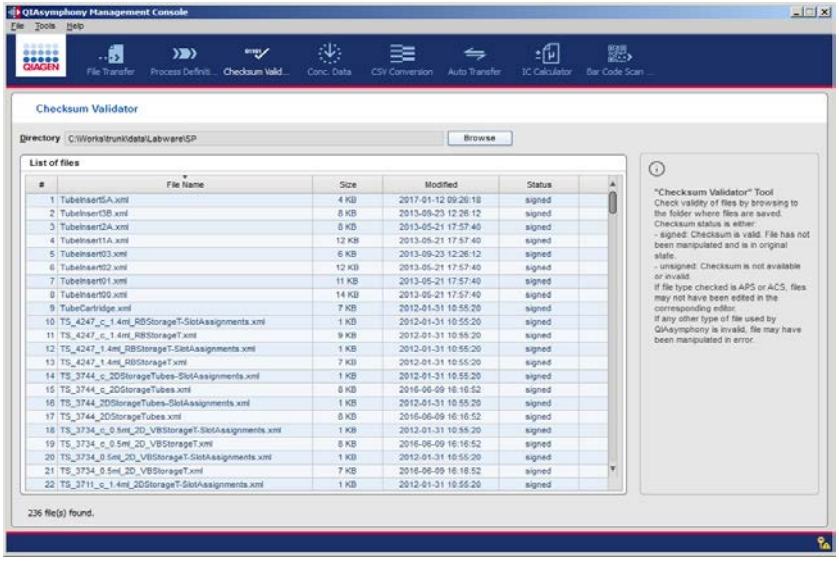
The validity of files is displayed directly in the file list in the **Status** column, when specified in the **File Transfer** tool (see Section 15). Files not located in **root/data/** can be validated using the **Checksum Validator** tool.

To validate the checksum of a file using the **Checksum Validator** tool, complete the following steps.

1. Select the **Checksum Validator** tool from the tool list.
2. Click **Browse** to search for the directory that contains the files to be checked (e.g., result files).
   The **Browse Directory** dialog box appears.



3. Select the folder and click **Choose**. All files with checksum are validated. The result is displayed in the list. The column **Status** contains the result of the validation ("signed" or "unsigned").



15.6 Converting the file format using the **CSV Conversion** tool

The **CSV Conversion** tool is used to convert the format of files in *.csv and *.xml format. The **CSV Conversion** tool enables:

- Conversion of rack files in *.csv format to *.xml format
- Conversion of rack files in *.xml format to *.csv format
- Conversion of work list files in *.csv format to *.xml format
- Conversion of concentration data files in *.csv format to *.xml format

Note: Before starting file conversion, ensure that the file extension and file delimiter is correct. To check this, go to **Tools/Options**, and then select **CSV Conversion**.

15.6.1 Converting a file from *.csv to *.xml format

To convert a *.csv file to an *.xml file that is in a format recognized by QIAsymphony, complete the following steps.

1. Select the directory where the file to be converted is located.
2. Click **Browse** to search. The **Browse Directory** appears.
3. Select a folder and then click **Choose**.

   We recommend saving the file in the appropriate directory in the root (local path) directory (e.g., rack files should be saved in **root\data\RackFiles**, work lists in **root\data\Worklists** and concentration data files in r**oot\data\ConcentrationData**).
4. Select **CSV format** as **File Format**.

5. Choose the file type to be converted from the **File type** list.
6. Select the file to be converted.
7. Press **Convert to QIAsymphony**. The converted file is saved in the directory selected in step 1.

   Note: The converted file (rack file, work list file) can be used by the QIAsymphony.

15.6.2 Converting a rack file from *.xml to *.csv format

Note: It is only possible to convert rack files from *.xml format to *.csv format.

1. Select the directory where the file to be converted is located.
2. Click **Browse** to search. The **Browse Directory** appears.
3. Select a folder and then click **Choose**.

   We recommend saving the file in the appropriate directory in the root (local path) directory (e.g., rack files should be saved in **root\data\RackFiles**).
4. Select **QIAsymphony format** as **File Format**.
5. Select the file to be converted.
6. Press **Convert to CSV**. The converted file is saved in the directory selected in step 1.

   Note: The *.csv files can be opened by Microsoft Windows programs.

16 Creating and Modifying Process Files

16.1 Process files

Assay Control Sets and Assay Parameter sets can be created and modified by the user. Protocol files and assay definition files cannot be created or modified by the user.

QIAsymphony SP process files

Name of process file	Folder where file is stored	Function of process file
Protocol	root/data/BioScripts	Describes the sample preparation workflow. In addition, pipetting information is defined.
Assay Control Set	root/data/AssayControlSets	Defines combinations of Protocols with internal controls and elution volume. Every sample being processed must be assigned an Assay Control Set.

QIAsymphony AS process files

Name of process file	Folder where file is stored	Function of process file
Assay Definition	root/data/AssayDefinitions	Describes the pipetting parameters for the assay and defines default assay parameters.
Assay Parameter Set	root/data/AssayParameterSets	Defines which assay is processed together with the assay parameters (e.g., number of replicates, ready-to-use master mix). In addition, used for an integrated run when linked to an Assay Control Set.

16.2 About the **Process Definition** editor tool

When many process files are available in the local path (root), the **Process Definition** editor tool may take a few seconds to start the corresponding dialogs.

Files edited by the **Process Definition** editor tool and saved with a higher version are copied to a backup folder in the root directory:

- Assay Control Sets: root\data\AssayControlSets_backup
- Assay Parameter Sets: root\data\AssayParameterSets_backup

In addition to information about version and date, the history of the file can be viewed. Select an Assay Control Set in the **File Transfer** menu, click **Edit**, and then click **History** in the screen that appears. Actions performed with the **Process Definition** editor tool are tracked in the root\log\ACS_APSEditor.log file.

Connection to the QIAsymphony is not required for using the **Process Definition** editor tool. In addition, the **Process Definition** editor tool can be used without logging into the QMC.

New process files can be created using either the **Guided Tour** or the **Quick Mode** function. This setting is specified with **Tools/Options/Process Definition** (see Section 5).

16.3 Before using the **Process Definition** editor tool

The following steps must be performed to enable the complete functionality of the **Process Definition** editor tool.

1. Optional: Specify **Process Definition** editor tool options.

   When using the QIAsymphony AS, frequently used dyes or dye combinations can be preconfigured (see Section 13.4).
2. Define the root directory (main directory) in the **File Transfer** tab of the **Options** dialog (page 49).
3. When using the QIAsymphony SP, transfer protocols and existing Assay Control Sets from the QIAsymphony to the corresponding subdirectories of the root directory (page 66).
4. When using the QIAsymphony AS, transfer Assay Definitions, existing Assay Parameter Sets and labware files from the QIAsymphony to the corresponding subdirectories of the root directory (page 66).
5. Launch the QMC (page 12). When the QMC is launched, the **File Transfer** tool is displayed by default.
6. Select the type of process file to be created or modified, or select the **Process Definition** editor tool from the list.

The buttons in the following table are available in the **File Transfer** tool.

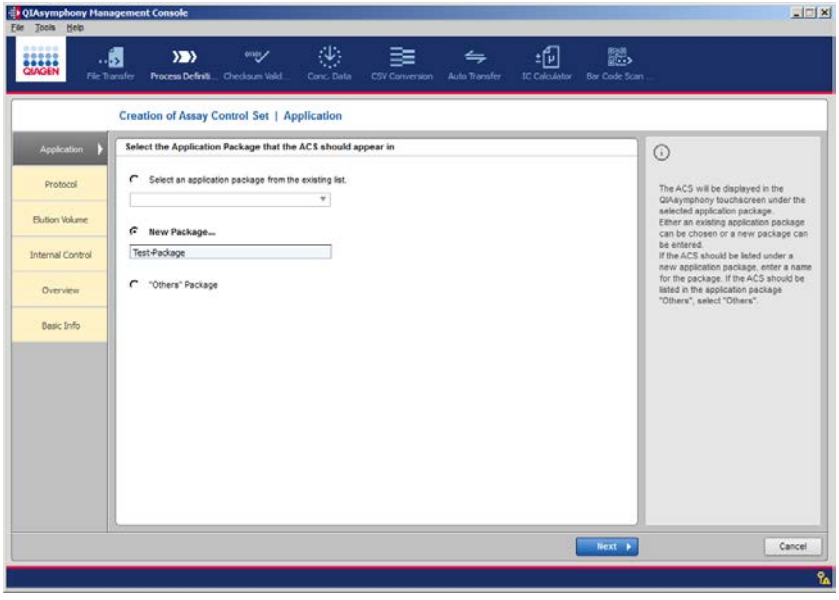
New	This button is always enabled. Click to create a new process file. Depending on the configuration chosen, a dialog box for either the **Quick Mode** or **Guided Tour** functions appears.
Edit	This button becomes enabled when a process file is selected in the **Local Site** list. Click to modify an existing Assay Control Set or Assay Parameter Set.
Refresh lists	This button is always enabled. Click to refresh the file lists on the right and left side.

16.4 Creating a new Assay Control Set

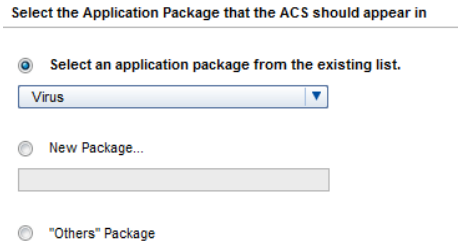
A new Assay Control Set can be created and modified using the **Guided Tour** or **Quick Mode** function of the **Process Definition** editor tool. When using the **Quick Mode** function, all information is entered within one dialog box.

16.4.1 (ACS) Using the **Guided Tour** function

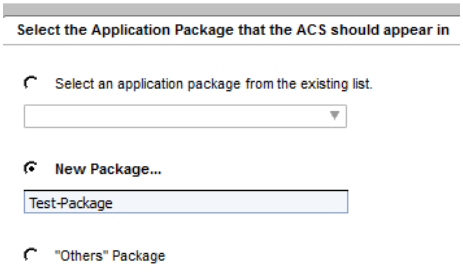
1. After completing the steps in Section 16.3 and selecting **Assay Control Set** in the **File Transfer** as the file type, click **New**. When the **Guided Tour** function has been selected, the **Creation of Assay Control Set/Application** dialog box appears.



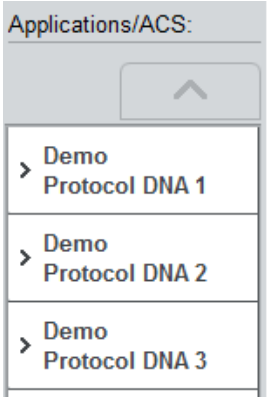
2. Indicate the Application Package in which the Assay Control Set should appear. If the new Assay Control Set should be listed in an existing Application Package, select the **Select an application package from the existing list** radio button. All available Application Packages are displayed in the drop-down list. Select the appropriate package from the list.



If the Assay Control Set should be displayed in a new Application Package, select the **New Package** radio button. The text field then becomes enabled. Enter the name of the new Application Package.

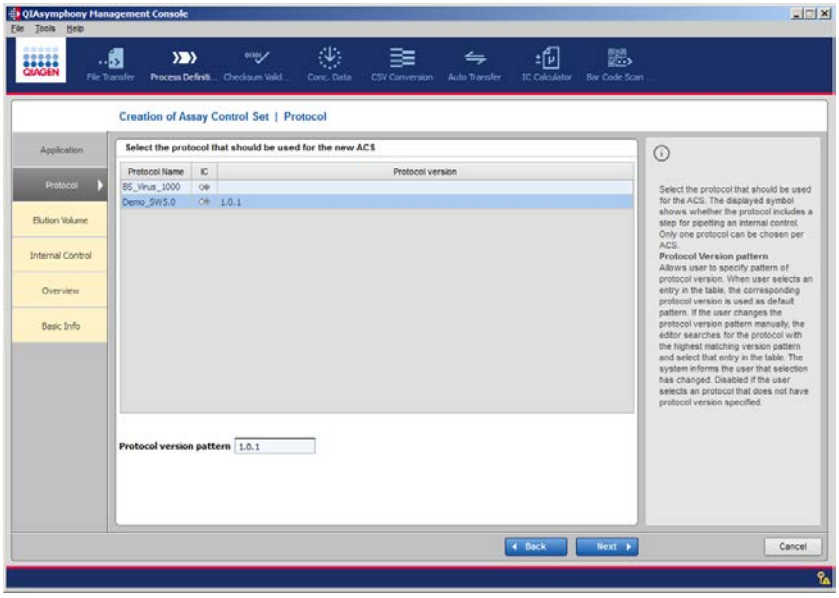


Note: If the entered text contains spaces, a line break will be introduced after the first space. For example, if "Demo Protocol DNA 1" is entered in the text field, the text will be displayed in the QIAsymphony touchscreen.



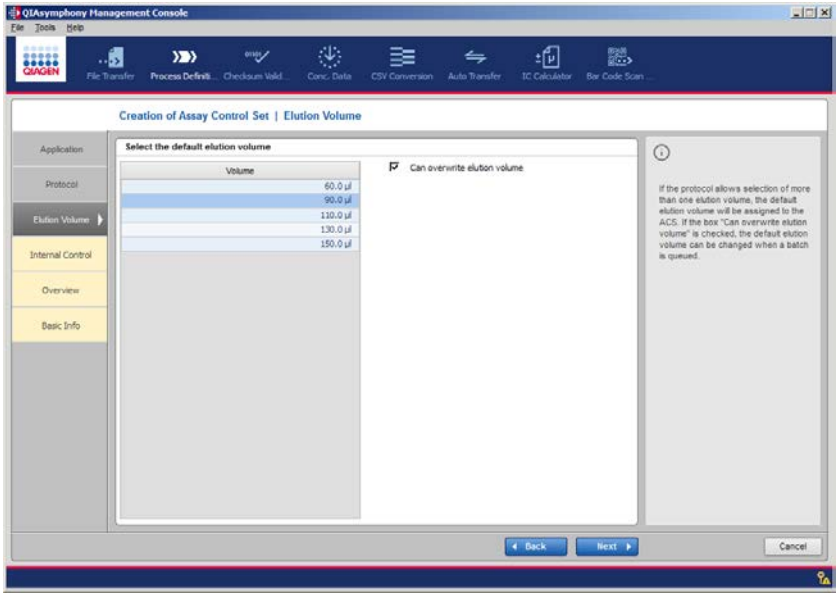
Alternatively, by selecting the **"Others" Package** radio button, the new Assay Control Set will be displayed under the package **Other**. When the information has been correctly entered, the **Next** button becomes enabled.

3. Click **Next** to continue. The **Creation of Assay Control Set/Protocol** dialog box appears.

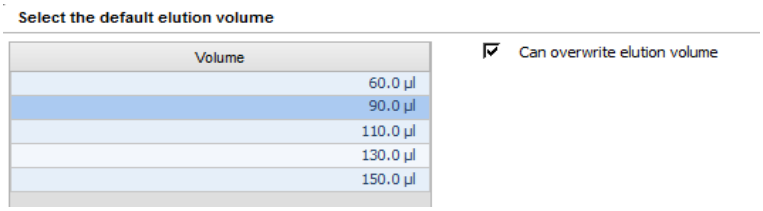


A list of all protocols available in the **root/data/BioScript** directory on the local PC is displayed in this dialog box. If the symbol appears in the **IC** column, the protocol uses internal controls.

4. Click **Next** to continue. The **Creation of Assay Control Set/Elution Volume** dialog box appears. A list of elution volumes that can be used with the selected Protocol is displayed in the dialog box.



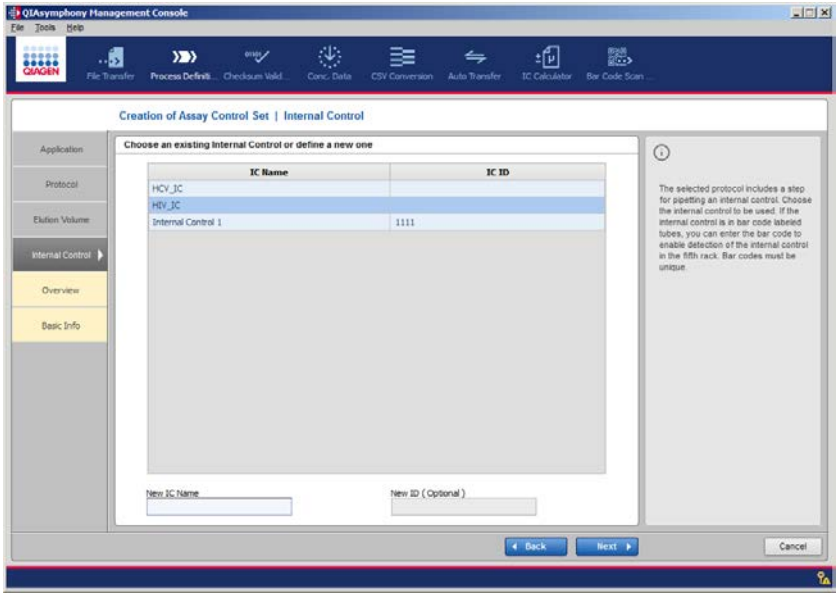
5. Select the elution volume that should be used as the default for the Assay Control Set.



6. Choose whether the elution volume can be overwritten (edited) when defining a sample batch on the QIAsymphony SP.
   If this box is checked, the elution volume can be overwritten when defining a batch. If the box is not checked, the elution volume cannot be edited.

   Note: The selected elution volume affects the concentration of the internal control in the eluate. We recommend leaving the box unchecked if the Assay Control Set uses an internal control.

7. Click **Next** to continue.
8. If the selected protocol includes addition of internal control, go to step 9. If the protocol does not include use of an internal control, go to step 11.
9. The **Creation of Assay Control Set/Internal Control** dialog box then appears.



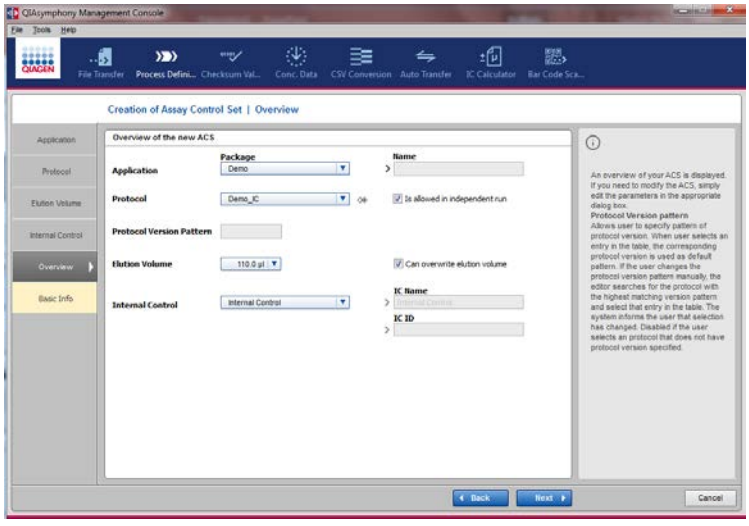
10. Choose an existing internal control or define a new one. If the new Assay Control Set uses a previously defined internal control, select the corresponding internal control from the list.

IC Name	IC ID
HCV_IC	
HIV_IC	
Internal Control 1	1111

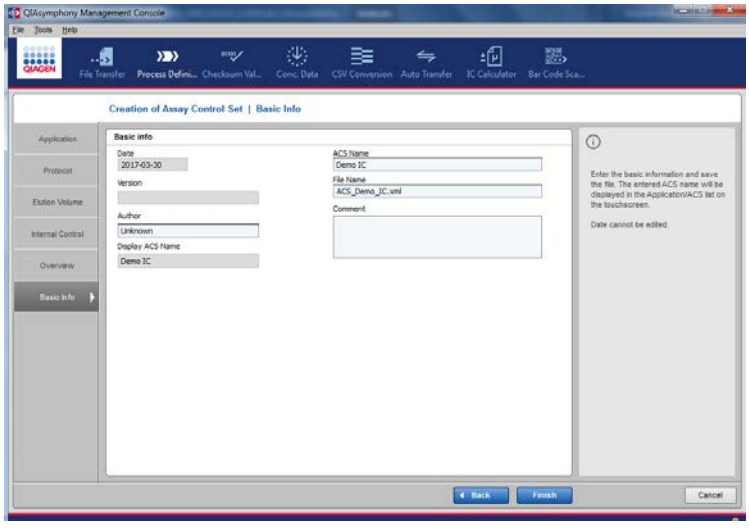
To define a new internal control for this Assay Control Set, enter the name for the new internal control into the text field.

Note: The internal control name will be displayed in the QIAsymphony touchscreen. If the entered text contains spaces, there will be a line break in the drop-down list after the first space. If the complete text does not fit in the position field, the beginning and the end of the text are displayed and "…" appears in the middle.

11. Click **Next** to continue. The **Creation of Assay Control Set/Overview** dialog box appears. If the information entered for all parameters is valid, **Next** is enabled.



12. When parameters have been correctly specified, click **Next** to continue.
13. The **Creation of Assay Control Set/Basic Info** dialog box appears.



The **Date** field is completed automatically and the actual date is displayed, which cannot be edited by the user. The resulting ACS name together with the versioning is shown under **Display ACS Name**. "Unknown" is displayed in the **Author** field if the user is not logged in to the QIAsymphony via the QIAsymphony Management Console. The name of the user that is logged in to the QIAsymphony is displayed in the **Author** field.

14. If required, enter a comment into the **Comment** field. Text and numerical characters are allowed.

15. The protocol name appears by default in the **ACS Name** field. The name of the Assay Control Set can be edited, if required.

    Note: We recommend incorporating the protocol name, elution volume and name of internal control into the Assay Control Set name.

    Note: If the Assay Control Set name contains spaces, a line break is introduced in the drop-down list in the QIAsymphony touchscreen after the first space. Underscore characters in the protocol name are replaced by default with spaces. We therefore recommend using underscore characters instead of spaces in the Assay Control Set name. We also recommend adding the names of the internal control to the Assay Control Set name, separated by a space.

16. "ACS_ACSName.xml" appears by default in **ACS Name**. You can edit the file name, if required.

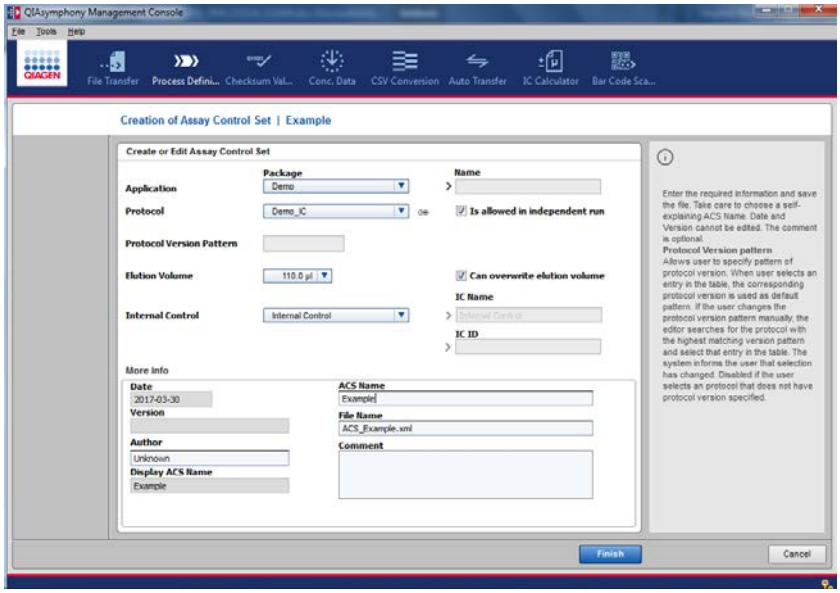
    We recommend using the default file name, for example:

17. Click **Finish** to save the Assay Control Set file in the Assay Control Set directory on the local path.

    To use the new Assay Control Set, the file must first be uploaded to the QIAsymphony (see Section 3.2.1).

16.4.2 (ACS) Using the **Quick Mode** function

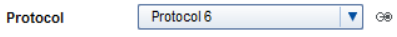
1. After completing the steps in Section 16.3 and selecting **Assay Control Set** as the file type, click **New**. Alternatively, select the **Process Definition** icon, and then select **Sample Preparation (ACS)**. When the **Quick Mode** function has been selected, the **Creation of Assay Control Set** dialog box appears. This dialog box includes input fields for all required parameters.



2. Enter the information in the following table.

Application — Select an existing Application Package from the **Package** drop-down list or select **New** if you want to create a new one. If you selected **New**, enter the name of the Application Package that should be displayed in the QIAsymphony touchscreen.

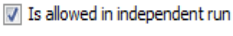
Protocol — Select the protocol that should be used for the new Assay Control Set. If the symbol appears after the protocol name, the selected protocol uses an internal control.



Elution Volume — Select the elution volume for the new Assay Control Set from the drop-down list.

Is allowed in independent run — By checking this box, the ACS can be used in an independent run. If the box is left unchecked, the ACS may not be used in an independent run.

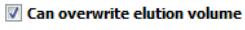
Note: The box is checked by default.



Can overwrite elution volume

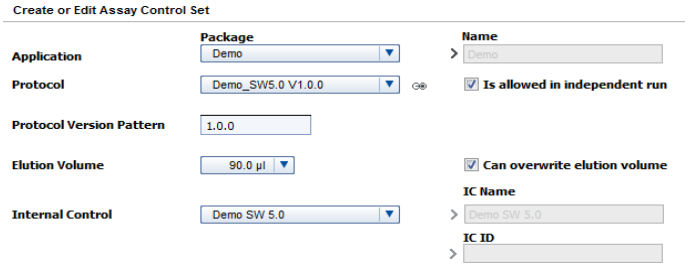
If this box is checked, the elution volume can be overwritten when defining a batch. If the box is left unchecked, the elution volume cannot be edited.

Note: The selected elution volume affects the concentration of the internal control in the eluate. We recommend leaving the box unchecked if the Assay Control Set uses an internal control.



Internal Control

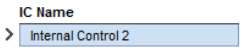
Choose an internal control from the drop-down list. This drop-down list, as well as the entry fields **IC Name** and **IC ID**, is only displayed if the protocol uses an internal control.



IC Name

This field is only visible if the selected protocol uses an internal control.

Enter the name of the internal control that should be used for the new Assay Control Set, or select an existing internal control. The name will appear in the drop-down list of the **Sample Preparation/Internal Controls** screen in the QIAsymphony touchscreen.



IC ID (optional)

This field is only visible if the selected protocol uses an internal control. An identifier can optionally be entered for the internal control.

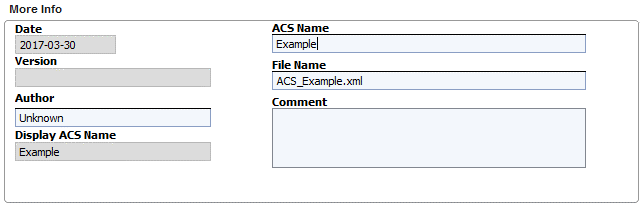
If you use bar codes to identify your internal control, you can enter the unique bar code in this field.

When the tube carrier containing internal controls labeled with bar codes is loaded into slot A of the "Sample" drawer, the QIAsymphony SP automatically detects which internal control is in each position. If internal controls are not labeled with bar codes, the user must manually assign the internal controls by selecting the corresponding internal controls from the list.

Date, Author

The **Date** field is completed automatically and cannot be edited by the user. The actual date is displayed in the **Date** field.

If the user is logged in to the QIAsymphony the **Author** field is completed automatically (the name of the user is displayed within). The entry field for **Author** is editable.



If no user is logged in to the QIAsymphony via the QMC, the **Author** field is prefilled with "Unknown". Therefore, the user should enter an author name for the edited Assay Control Set (see Section 14).

Comment

A comment composed of text and numerical characters, that will be tracked in the history, can be entered.

ACS Name

The protocol name appears by default in the **ACS Name** field. The name of the Assay Control Set can be edited, if required.

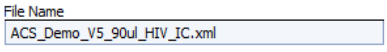
Note: We recommend incorporating the protocol name, elution volume, the protocol version and name of the internal control into the Assay Control Set name. For example:

Note: If there are spaces within the Assay Control Set name, a line break will be introduced after the first space. Underscore characters within the Protocol name are replaced by default with spaces. We recommend using underscore characters instead of spaces in the Assay Control Set name. We also recommend adding the names of the internal control to the Assay Control Set name, separated by a space.

File Name

"ACS_ACSName.xml" appears by default in **File Name**. You can edit the file name, if required.

We recommend using the default file name, for example:



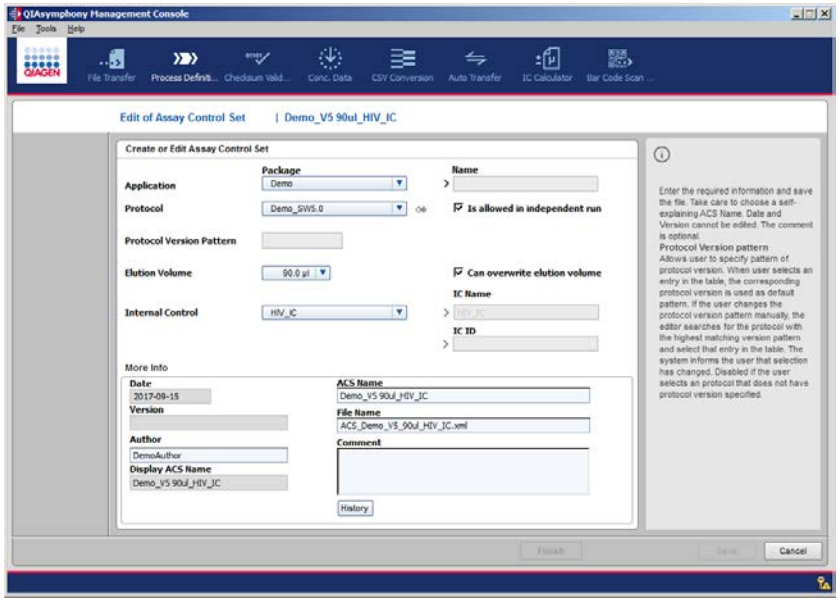
If all parameters have been correctly entered, the **Save** and **Finish** buttons are enabled.

3. Click **Finish** to save the newly created Assay Control Set. The dialog box will close and the **File Transfer** tool will be displayed. To use the new Assay Control Set, the file must first be uploaded to the QIAsymphony (see Section 3.2.1).

16.5 Modifying an existing Assay Control Set

To modify an existing Assay Control Set, complete the following steps.

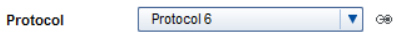
1. In the **File Transfer** tool, select **Assay Control Set** as the file format.
2. Select the Assay Control Set to be modified in the **Local Site** list. The **Edit** button becomes enabled.
3. Click **Edit**, or double click on the Assay Control Set file. The Edit of Assay Control Set dialog box appears. All relevant information about the Assay Control Set is displayed in this dialog.



4. Modify the parameter(s), as required.

Application Select an existing Application Package from the **Package** drop-down list or select **New** if you want to create a new one. If you selected **New**, enter the name of the Application Package that should be displayed in the QIAsymphony touchscreen.

Protocol Select the protocol that should be used for the new Assay Control Set. If the symbol appears after the protocol name, the selected protocol uses an internal control.



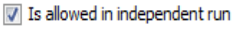
Elution Volume

Select the elution volume for the new Assay Control Set from the drop-down list.

Is allowed in independent run

By checking this box, the ACS can be used in an independent run. If the box is left unchecked, the ACS may not be used in an independent run.

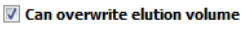
Note: The box is checked by default.



Can overwrite elution volume

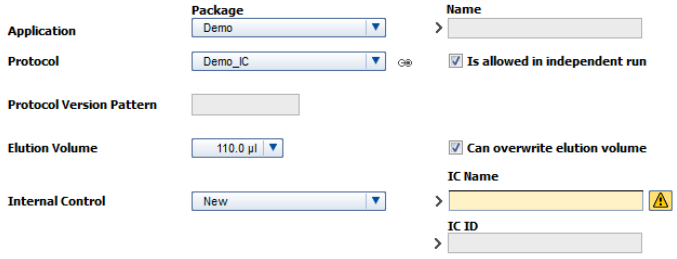
If this box is checked, the elution volume can be overwritten when defining a batch. If the box is left unchecked, the elution volume cannot be edited.

Note: The selected elution volume affects the concentration of the internal control in the eluate. We recommend leaving the box unchecked if the Assay Control Set uses an internal control.



Internal Control

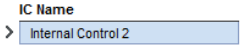
Choose an internal control from the drop-down list. This drop-down list, as well as the entry fields **IC Name** and **IC ID**, is only displayed if the protocol uses an internal control.



IC Name

This field is only visible if the selected protocol uses an internal control.

Enter the name of the internal control that should be used for the new Assay Control Set, or select an existing internal control. The name will appear in the drop-down list of the **Sample Preparation/Internal Controls** screen in the QIAsymphony touchscreen.



IC ID (optional)

This field is only visible if the selected protocol uses an internal control. An identifier can optionally be entered for the internal control.

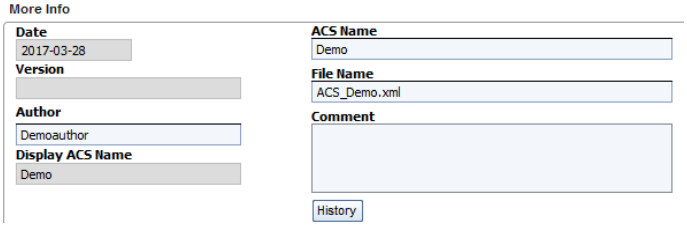
If you use bar codes to identify your internal control, you can enter the unique bar code in this field.

When the tube carrier containing internal controls labeled with bar codes is loaded into slot A of the "Sample" drawer, the QIAsymphony SP automatically detects which internal control is in each position. If internal controls are not labeled with bar codes, the user must manually assign the internal controls by selecting the corresponding internal controls from the list.

Date, Author

The **Date** field is completed automatically and cannot be edited by the user. The actual date is displayed in the **Date** field.

If the user is logged in to the QIAsymphony the **Author** field is completed automatically (the name of the user is displayed within). The entry field for **Author** is editable.



If no user is logged in to the QIAsymphony via the QMC, the **Author** field is prefilled with "Unknown". Therefore, the user should enter an author name for the edited Assay Control Set (see Section 14).

Comment

Text and numerical characters can be entered.

History

Click this button to view the history of the Assay Control Set file.

ACS Name

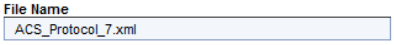
The protocol name appears by default in the **ACS Name** field. The name of the Assay Control Set can be edited, if required.

Note: We recommend incorporating the protocol name, elution volume, the protocol version and name of the internal control into the Assay Control Set name.

Note: If there are spaces within the Assay Control Set name, there will be a line break after the first space. Underscore characters within the protocol name are replaced by default with spaces. We therefore recommend using underscore characters instead of spaces in the Assay Control Set name. We also recommend adding the names of the internal control to the Assay Control Set name, separated by a space.

File Name "ACS_ACSName.xml" appears by default in **File Name**. You can edit the file name, if required.

We recommend using the default file name, for example:



5. Click **Save** to save the modified or newly created Assay Control Set.
   The dialog box will remain open and you can create additional Assay Control Sets.
6. Alternatively, click **Finish** to save the modified or newly created Assay Control Set. The dialog box closes and the **File Transfer** tool will be displayed.

Note: The original file (before the modifications are saved) is saved in a backup directory (**root/data/AssayControlSets_backup**).

The file is renamed as "original file name_date_Version.xml". To use the modified or new Assay Control Set, the file must first be uploaded to the QIAsymphony (see Section 4).

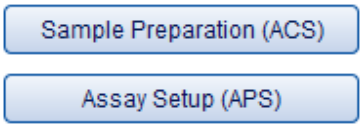
16.6 Creating a new Assay Parameter Set

A new Assay Parameter Set can be created and modified using the **Guided Tour** function (for more information, see Section 13.4.1).

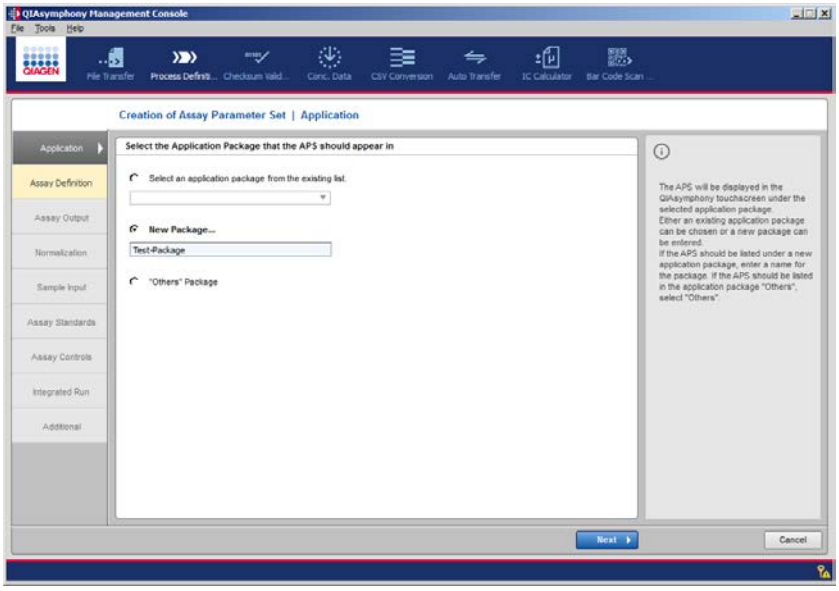
16.6.1 (APS) Using the **Guided Tour** function

The **Guided Tour** function can be used to create a new Assay Parameter Set.

1. After completing the steps in Section 16.3, select **Assay Parameter Set** as the file type and click **New** (in the **File Transfer** tool). Alternatively, select the **Process Definition** icon, and then select **Assay Setup (APS)**.



The **Creation of Assay Parameter Set/Application** dialog appears.

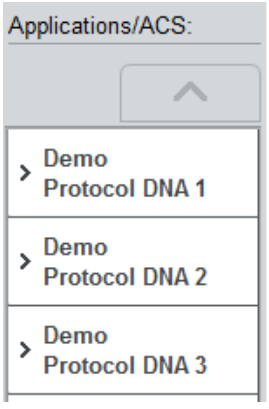


2. Indicate the application package in which the Assay Parameter Set should appear.

   If the new Assay Parameter Set should be listed in an existing application package in the QIAsymphony touchscreen, select the **Select an application package from the existing list** radio button. All available application packages are displayed in the drop-down list. Select the appropriate package from the list.

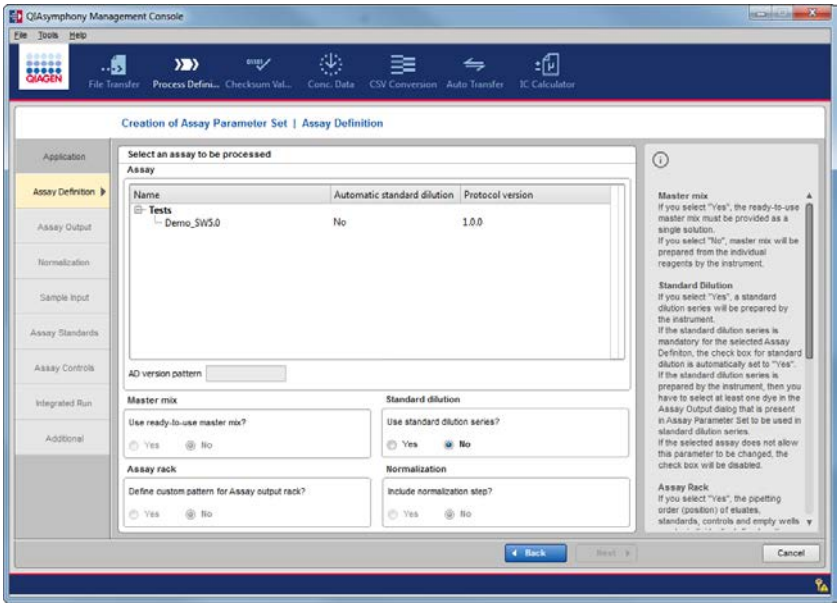
   If the Assay Parameter Set should be displayed in a new application package, select the **New Package** radio button. The text field then becomes enabled. Enter the name of the new application package.

   Note: If the entered text contains spaces, a line break will be introduced after the first space. For example, if "Demo Protocol DNA 1" is entered in the text field, the text will be displayed in the QIAsymphony touchscreen.



Alternatively, by selecting the **"Others" Package** radio button, the new Assay Parameter Set will be displayed under **Others**.

When the information has been correctly entered, the **Next** button becomes enabled. After clicking **Next** in the **Creation of Assay Parameter Set/Application** dialog, the **Creation of Assay Parameter Set/Assay Definition** dialog box appears.



3. From the **Assay** panel, select the assay for which parameters should be defined. The assays are sorted in different packages, which can be expanded or condensed by clicking the arrow symbols.

   Note: Only one assay can be selected from the **Assay** list.

   Note: If the selected assay requires a Rotor-Disc® for the assay rack, it is not possible to include a normalization step. This is because each Rotor-Disc covers more than one assay slot. If such an assay is selected, the following message appears: "Including a normalization step is not possible for assay definitions that use the rotor gene disc."

   Note: The column **Automatic standard dilution** indicates whether a standard dilution series will be prepared by the instrument for a particular assay.

   - **Yes**: A standard dilution series will be prepared by the instrument. The dilution may be defined via the **Creation of Assay Parameter Set/Assay Standards** dialog.
   - **No**: The standards must be selected manually by the user in the **Assay Standard** dialog. No standard series will be created by the instrument.

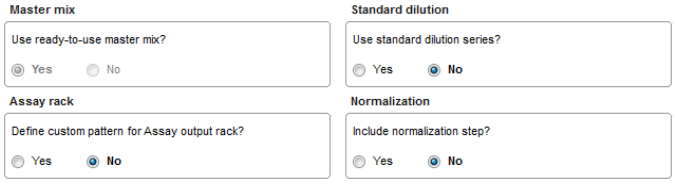
4. In the **Master mix** panel, select whether ready-to-use master mix will be used.

   Note: This setting is only a default setting and can be changed on the touchscreen when defining a run for the QIAsymphony AS.

If system-prepared master mix creation is possible, it is Assay Definition dependent.

- **Yes**: A single solution of ready-to-use-master mix must be available on the QIAsymphony AS.
- **No**: The individual components of the master mix must be available on the QIAsymphony AS; the master mix is set up and mixed by the instrument, as defined in the Assay Definition file.

5. Optional: If the Assay Definition supports automatic standard dilution and the standard series is optional, an additional panel **Standard dilution** is displayed and the user can enable or disable creation of a standard series:
   - **Yes**: The APS must contain the relevant parameters. A tab for a standard dilution series will be displayed in the **Assay Standards** dialog.
   - **No**: The APS does not contain the relevant parameters. A tab for standard dilution series will not be displayed in the **Assay Standards** dialog.



6. Select whether to define a custom pattern for the assay rack in the **Assay rack** panel.
   - **Yes**: The positioning of assays, standards, controls and empty wells can be individually defined on the assay rack. When **Yes** is selected, the **Creation of Assay Parameter Set/Assay Output** dialog is activated (see step 29, below).
   - **No**: The pipetting order on the assay rack will be the default pipetting order (i.e., eluates, standards, controls without empty wells).
7. Select whether a normalization step will be included.
   - Yes: Eluates will be diluted to equal concentrations. A Normalization Definition (ND) file is required for the instrument to perform the normalization step. If **Yes** is selected, the **Normalization** dialog is activated.
   - **No**: There will be no normalization step.

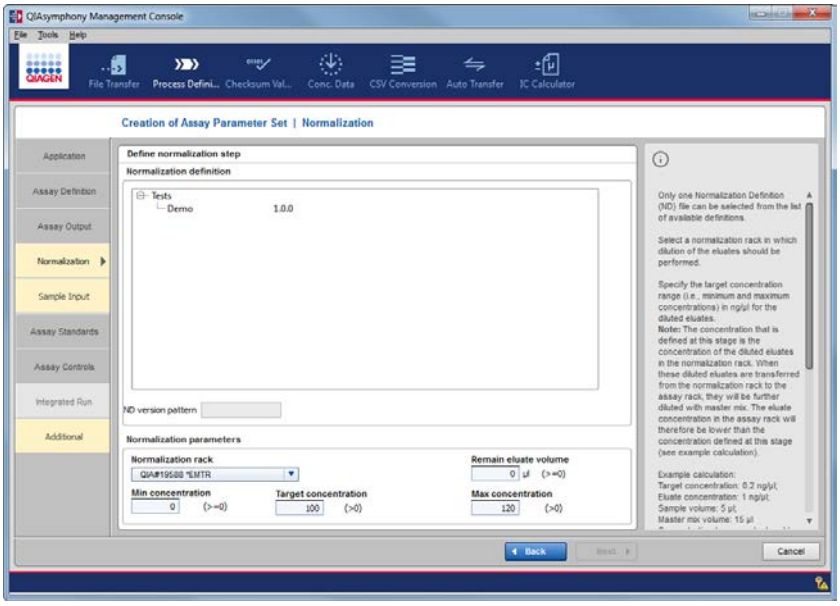
   Note: It is not possible to use normalization in an integrated run. Consequently, the **Creation of Assay Parameter Set/Integrated Run** dialog will not be available if normalization is applied.

   Note: The normalization definition file is a *.xml file provided by QIAGEN. Please refer to *QIAsymphony SP/AS User Manual — Operating the QIAsymphony AS* for more information about the normalization definition.

Note: When using normalization, the QIAsymphony AS looks for a *.xml Concentration Data File which can be uploaded to the QIAsymphony via the QMC. For more information, see Section 8 in the *QIAsymphony SP/AS User Manual — General Description*.

8. When information has been correctly entered, the **Next** button is enabled.
9. Click **Next** to continue.

   If the Assay Parameter Set will include a normalization step, proceed to step 10. If the Assay Parameter Set will not include a normalization step, proceed to step 15.



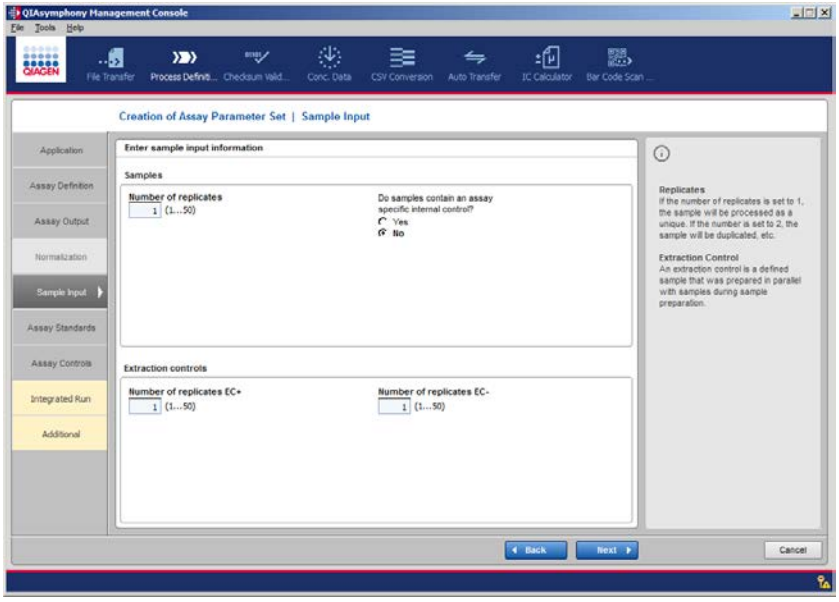
10. The **Creation of Assay Parameter Set/Normalization** dialog appears. Select a Normalization Definition file in the list within the **Normalization definition** panel.
11. Select a normalization rack from the **Normalization rack** drop-down menu. Eluates will be diluted in this rack.
12. Define the minimum, target and maximum eluate concentrations in the **Normalization parameters** panel.

    Note: The target concentration value (i.e., the concentration that is produced by the normalization step) should be within the range defined by the minimum and maximum concentrations. The values of minimum, target and maximum concentration may be equal. The concentration value may have decimal places.

    Note: Samples that already have a concentration that lies between the defined minimum and target concentration will be directly pipetted into the assay rack. In this case, a dilution step will not be performed.

If the concentration of a sample is already below the minimum concentration, or if it is not possible to dilute a sample to below the maximum concentration, the affected sample will not be processed any further on the QIAsymphony AS.

13. When all required information has been entered, the **Next** button is enabled.
14. Click **Next** to continue. The **Sample Input** dialog appears.



15. Enter the number of replicates for samples in the **Samples** panel.

    Note: To specify processing of just one sample, enter "1"; for duplicates, enter "2"; for triplicates, enter "3" etc.

16. Indicate whether your samples contain an assay-specific internal control by using the radio buttons in the **Samples** panel beside the **Number of replicates** field.

    - **Yes**: An assay-specific internal control is provided in the samples, but not in the master mix.

      Note: An additional master mix containing the internal control will be created for assay standards and assay controls.

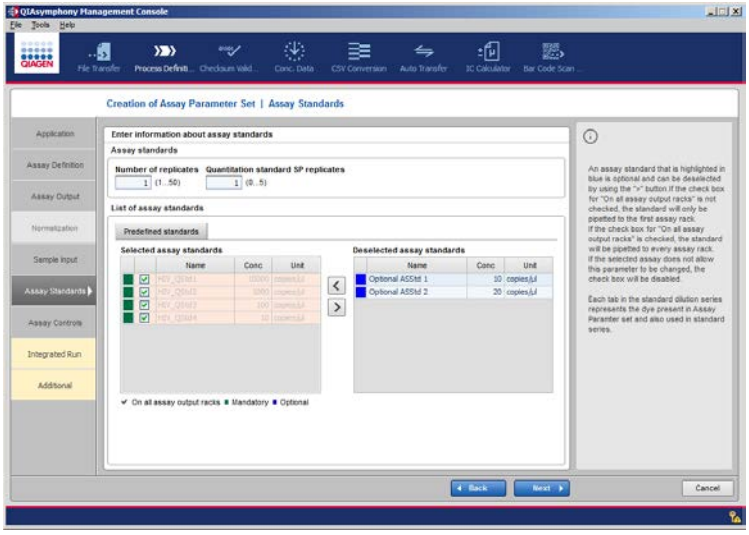
    - **No**: An assay-specific internal control is provided in the master mix, but not in the samples.

17. Enter the number of replicates for the extraction controls in the **Extraction controls** panel.

    Note: To specify processing of just one extraction control, enter "1"; for duplicates, enter "2"; for triplicates, enter "3" etc.

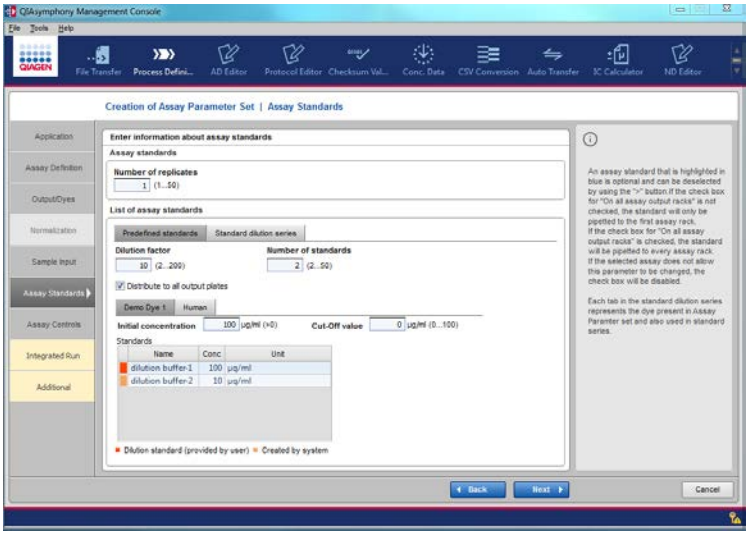
    Note: Extraction controls are prepared in parallel with samples during sample preparation. The positions for positive extraction controls and negative extraction controls can be set in the rack file or are automatically available when defined for the rack file.

18. When the information has been correctly entered, the **Next** button becomes enabled. Click **Next** to continue.
    - If an assay definition that supports standard dilution was selected, the **Creation of Assay Parameter Set/Assay Standards** dialog appears. Proceed with step 19.
    - If using predefined standards, go to step 23 without creating a standard dilution series.
    - If the assay definition does not require definition of standards, the **Creation of Assay Parameter Set/ Assay Output** dialog appears. Proceed to step 30, below.



Creation of Assay Parameter Set/Assay Standards dialog.

19. When using standards with dilution parameters, enter the dilution factor for the standard series dilution within the corresponding tab (**Dilution factor** entry field).



Creation of Assay Parameter Set/Assay Standards using assay definition with automatic standard dilution (Standard dilution series tab).

20. Enter the starting concentration of the stock solution (the concentration of the initial dilution standard which is provided by the user) under **Initial concentration**.

21. Enter the number of replicates for assay standards in the **Number of standards** entry field. The stock solution (initial standard) is included in this value.

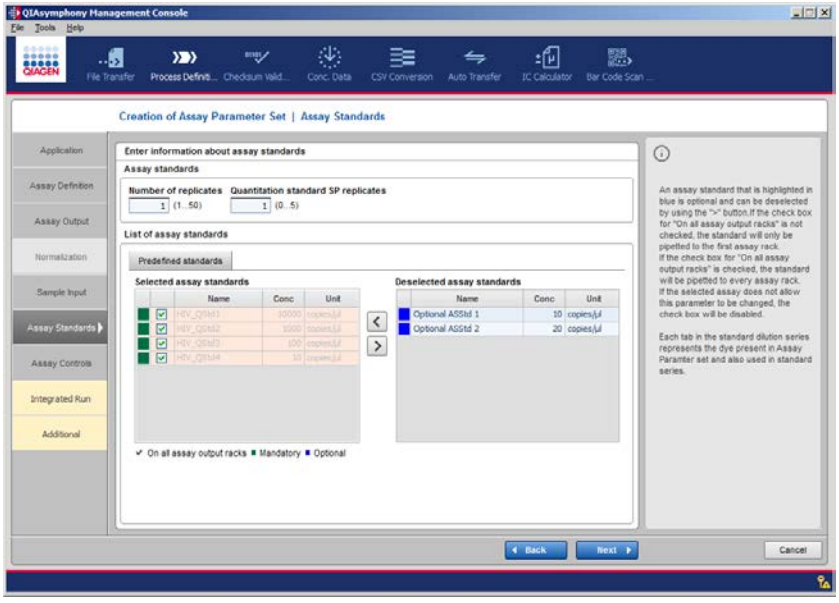
    Example: If you define a dilution factor of 10 (i.e., the dilution ratio is 1:10) and an initial concentration of 30 ng/µl. Then, if you set the number of standards to 5, the system will create four new standards based on the stock solution:

    - Standard-1 (stock solution) with conc. 30 ng/µl
    - Standard-2 with conc. 3 ng/µl
    - Standard-3 with conc. 0.3 ng/µl
    - Standard-4 with conc. 0.03 ng/µl
    - Standard-5 with conc. 0.003 ng/µl

    Note: When opening the dialog, the standards list is empty. It is updated according to the number of standards.

    The standards in the list are named using the following pattern, [Prefix]-[index], e.g., "Standard-1", "Standard-2", "Standard-3", etc.

22. The **Next** button is enabled if all entries are completed correctly. Click **Next** to continue with the **Assay Controls** dialog and proceed to step 25, below.



Creation of Assay Parameter Set/Assay Standards using assay definition with predefined standards (i.e., no automatic standard dilution).

23. Adjust the list of assay standards according to requirements. The Assay Definition defines whether a standard is mandatory or optional.

- Optional assay standards are indicated in blue, and they can be deselected from the list, if necessary. To do this, press the arrow in the right direction to move the assay standard to the **Deselected assay standards** table.
- Mandatory assay standards are indicated in green. Mandatory assay standards must be processed and cannot be deselected from the list.

Specify the **On all assay output racks** option by using the checking box next to the standard name.

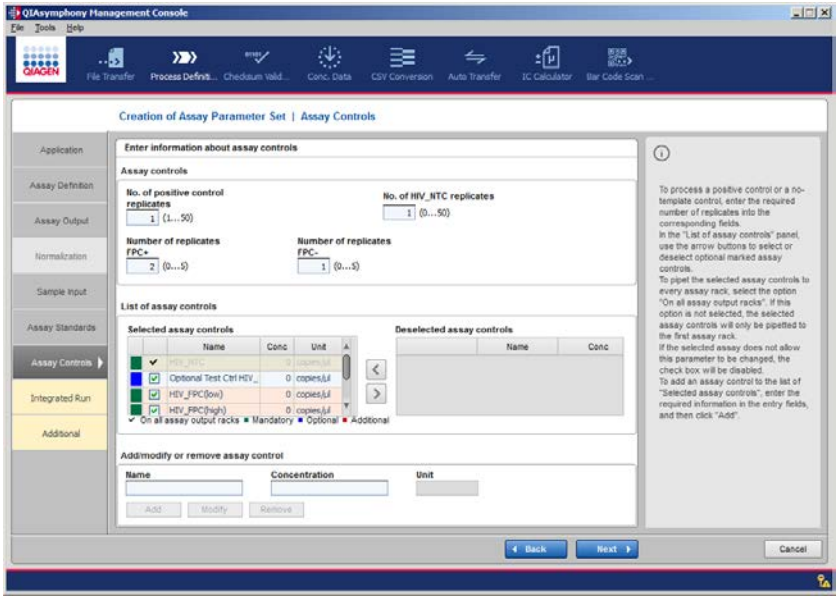
Note: Depending on the assay definition, some standards cannot be checked or unchecked by the user.

- Checked: The corresponding assay standard is distributed to all assay racks, if more than one is required.

  Note: At least one assay standard must be distributed to all assay racks.
- Not checked: The corresponding assay standard is only distributed to the first assay rack if more than one is required.

Note: The concentration unit defined in the **Unit** column is defined in the assay definition and cannot be adjusted by the user.

24. The **Next** button is enabled if all entries are entered correctly. Click **Next** to continue. The **Creation of Assay Parameter Set/Assay Controls** dialog appears.



25. Enter the number of replicates for the assay controls.
    - When a positive assay control is used, enter the number of replicates for the positive control(s).
    - If the assay definition contains a no template control (NTC), enter the number of replicates for the NTC. The NTC is processed with master mixes that contain internal controls, when one reagent is defined as the internal control in the assay definition.

    Note: If an assay contains an IC, a NTC with a master mix that contains an internal control must be processed and at least one replicate must be defined. The processing of the NTC with master mixes that do not contain an internal control is optional and can be deselected by entering "0" for the number of replicates.

    Note: Regardless of whether the assay definition with a no template control contains an internal control, the NTC is always processed.
26. When the assay contains predefined assay controls, adjust the assay control list as necessary.
    - If the selected assay contains predefined positive assay controls, make sure they are preselected in the **Selected assay controls** list.
    - The assay definition also defines whether a predefined assay control is mandatory or optional. Optional assay controls are indicated with blue, and can be deselected from the list if required. To do this, use the arrow in the right direction to move the assay control to the **Deselected assay controls** table. Mandatory assay controls are indicated with green. Mandatory assay controls must be processed and cannot be deselected from the list.
27. Specify the **On all assay output racks** option.
    - Checked: The corresponding assay control is distributed to all assay racks, if more than one is required.
    - Unchecked: The corresponding assay standard is only distributed to the first assay rack if more than one is required.

      Note: If the selected assay does not allow this parameter to be changed, the check box will be disabled.
28. Optional (if required and the assay definition allows it): Create additional assay controls to be used by the assay (panel **Add/modify or remove assay control**).
    If the selected assay allows the creation of additional assay controls, they can be defined in the **Add/modify or remove assay control** panel.

    To add an additional assay control:
    - Enter the name in **Name**.
    - Enter the **Concentration** of the additional control.

      Note: The **Unit** entry field is filled automatically and cannot be edited.

- Press **Add**. The added assay control is indicated with red in the list of **Selected assay controls**.

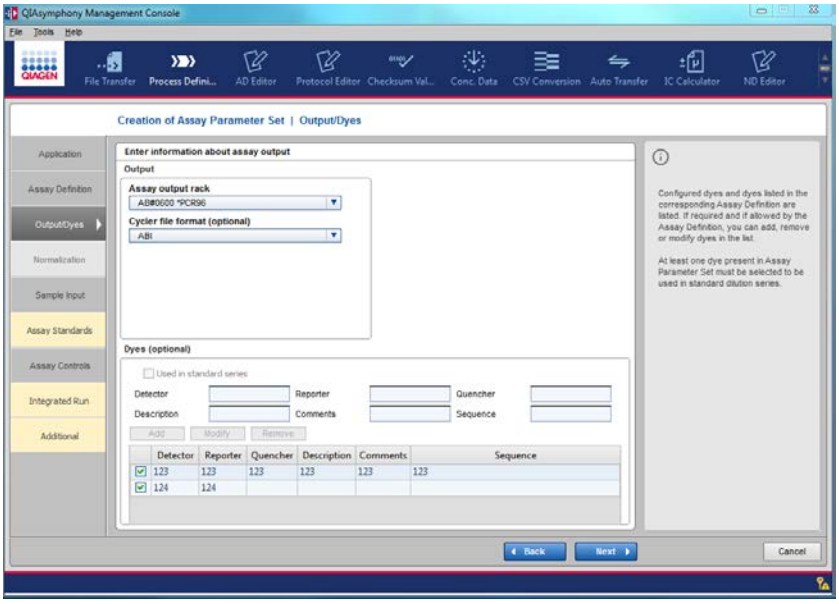
To change one of the defined assay controls:

- Select the assay control from the list. The corresponding parameters appear.
- Modify the name or concentration as required.
- Press **Modify**. The changed assay control appears in the list.

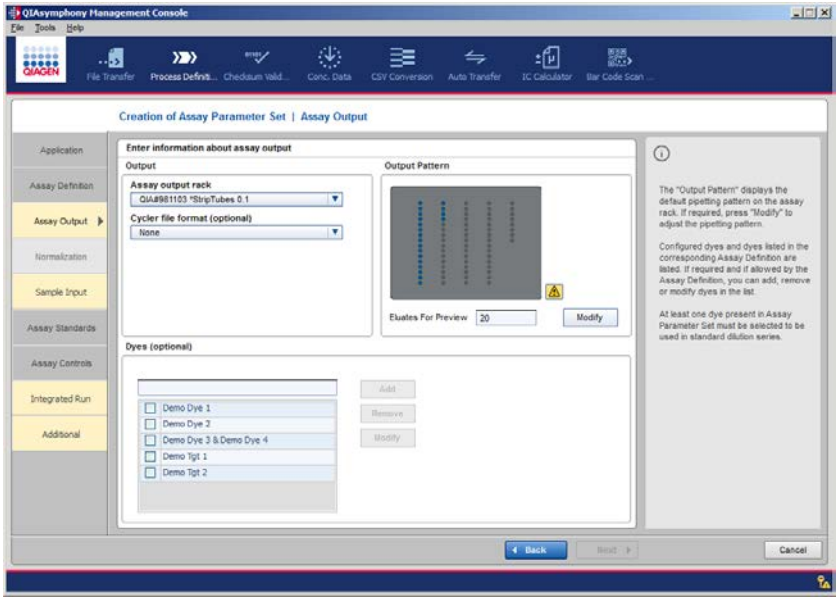
To remove an additional assay control:

- Select the additional assay control from the list. The corresponding parameters appear in the dialog box.
- Press **Remove**. A dialog box appears to confirm the removal:
  - **Yes**: The additional assay control is removed from the list of **Selected assay controls**.
  - **No**: The additional assay control stays in the list.

29. Click **Next** to continue. The **Creation of Assay Parameter Set/Assay Output** dialog is displayed. Depending on whether a normalization step was defined, a plate schematic of the **Output Pattern** is also displayed.



Creation of Assay Parameter Set/Output/Dyes using ABI® dyes.



Creation of Assay Parameter Set/Assay Output when a custom pattern will be defined for the assay rack.

30. Select the assay rack used as the default in the **Output** panel.

    The selected assay defines which rack category is used. The assay category defines which assay racks can be selected. The assay rack selected is used by default during assay definition. If more than one assay rack belongs to a category, the default assay rack can be overwritten during run definition.

    Note: Assay Parameter Sets that are based on the same assay definition are always compatible. In a multiple-assay run, these Assay Parameter Sets will be pipetted sequentially onto the same assay rack. To pipet the assays of a multiple-assay run to different assay racks, Assay Parameter Sets must be created from individual assay definitions that are incompatible.

31. Optional: Select the cycler file format to be created after the run. Depending on the assay rack category, different types of cycler files can be specified. The following cycler files are currently supported:

    - Rotor-Gene® Q: Available for use with the Rotor-Gene Q
    - ABI: Available for 96-well formats
    - ABI-HID: Available for 96-well formats

Item	Description
None	Displayed when no compatible cycler file is available. Select if none of the available cycler file(s) are required.
Cycler file format	If the actual software supports only one cycler file type for the selected assay rack, this is selected by default. In the current software version, there are 3 cycler file formats which are recognized and assigned to the default selection: • Rotor-Gene Q • ABI • ABI-HID

32. Optional: Specify and/or add dyes to be used in the **Dyes (optional)** panel. All dyes or dye combinations that have been predefined with **Options/Process Definition** are listed in the table (see Section 13.4.2 for more information).

    To choose a dye/dye combination, check the checkbox next to the name.

    To change a dye specification shown in the table, select an existing dye or dye combination, press **Modify** and make your entries in the given entry fields. If you want to add a new dye or dye combination click **Add** and fill in the dye specifications in the entry fields as well.

    Note: Modifications and removal of dyes/dye combinations within the table are not allowed for dyes which are already defined within the stated assay definition.

    Depending on the chosen assay rack and cycler file format, the **Dyes** panel displays the input form for the ABI Cycler file format as default selection.

    - Rotor-Gene Q: To add a dye or dye combination, type in the dye name, then click the **Add** button.

      Note: If the **Cycler file format** is set to **None**, the software provides the **Dyes** panel as described for the Rotor-Gene Q cycler file format.

      Note: When entering dye combinations, use a comma to separate the different dyes. Dye combinations are only possible for dyes in Rotor-Gene Q cycler file format.

      Example: "Demo Dye 1, Demo Dye 2"

    - ABI: For ABI cycler files, **Detector** (the identifying name) and **Reporter** (the actual dye that is to be detected) must be defined via the entry form.

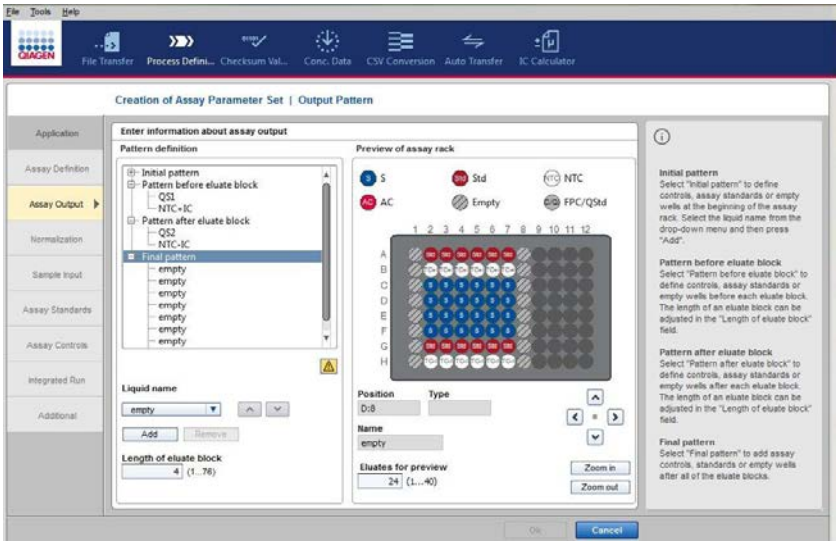
      The remaining parameters (**Quencher**, **Description**, **Comments** and **Sequence**) are optional specifications.

      Note: It is not possible to use the same **Detector** with a different **Reporter**. Each dye parameter must be unique.

- ABI-HID: For ABI-HID cycler files, **Target** (the identifying name) and **Reporter** (the actual dye that is to be detected) must be defined via the entry form.

  The **Quencher** and **Passive** references are optional specifications. Depending on whether a standard series is used, the parameter **Used in standard series** must be activated for the respective **Target**.

33. If a custom output pattern will not be defined, proceed to step 39, below. If a custom output pattern will be defined, proceed to step 34.
34. Specify the number of eluates to be previewed in the plate schematic in the **Output Pattern** panel. The number of eluates in the plate schematic will be adjusted accordingly.
35. Press **Modify** in the **Output Pattern** panel to customize the output pattern. A sub-dialog appears.



Creation of Assay Parameter Set. Use the sub-dialog in the **Output Pattern** of the **Assay Output** dialog to define a custom pattern for the assay rack.

36. Use the **Pattern definition** panel to select a specific layout for the required liquids on the assay rack.

    To create a pattern, select the pattern type to be defined in the **Pattern definition** panel (i.e., **Initial pattern**, **Pattern before eluate block**, **Pattern after eluate block** or **Final eluate pattern**). The active pattern type or liquid name is highlighted dark blue.

    Then choose the liquid from the **Liquid name** selection list and click **Add**. Similarly, in order to remove a liquid, select the liquid to be removed within the pattern type list and click the **Remove** button.

    In order to change the arrangement of liquids within a pattern type, click on the desired liquid name in the list and use the up and down arrow under the pattern type list.

Define the **Length of eluate block**. The software dynamically displays the upper limit of the eluate block size.

Note: A complete pattern consists of at least one and at most four different kinds of patterns which relate to the arrangement of liquids before and after the eluates.

- **Initial pattern**: A single-use incidence in front of the **Pattern before eluate block** pattern (if defined) and the first eluate block.
- **Pattern before eluate block**: Liquid sequence to be positioned after the initial pattern (if defined) before the first eluate block and at the beginning of each following eluate block.
- **Pattern after eluate block**: Liquid sequence to be positioned after each eluate block and before the final pattern (if defined).
- **Final pattern**: The complement of the initial pattern, i.e., a pattern which will be applied after the **Pattern after eluate block** pattern (if defined) and the last eluate block.

Note: All liquids given in the **Liquid name** selection list must feature in the output pattern.

Note: The highest possible number of eluates per block depends on the number of positions on the assay rack and the number of already assigned liquid positions within the output pattern. The pattern before/after eluate blocks will be placed between those eluate blocks. A pattern consists of an initial and/or final pattern and one eluate block if the block size complies with the upper limit.

37. There is a caption on top of the **Preview of assay rack** panel showing the different liquid types that occur in an assay output pattern. Below the caption, the chosen assay rack is displayed.

    To see details for a specific position on the assay rack, click on the position and look at the text fields **Position**, **Type** and **Name** stated below. You can also navigate stepwise through each documented position on the assay rack by using the arrow buttons next to the information text fields.

    In order to magnify or to reduce the preview of the assay rack, use the **Zoom in** or **Zoom out** buttons under the navigation arrow buttons.

    To adjust the number of **Eluates for preview**, use the analogous entry field next to the last-named zoom buttons.

    Note: The number of eluates in the **Eluates for preview** field is not related to the actual number of eluates on the rack during an actual run.

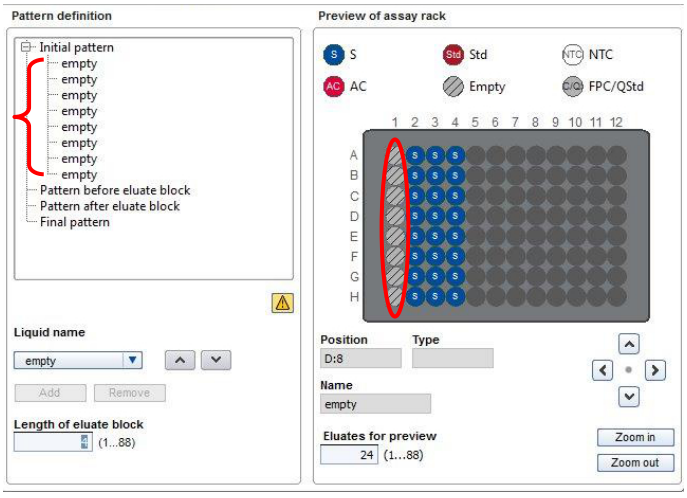
38. When the custom output pattern has been defined, click **OK**. The original **Assay Output** dialog reappears and the custom output pattern that has been defined is now displayed in the plate schematic.

    Note: By using user-defined output patterns and specifying eluate blocks and liquid positions, the number of replicates for controls and standards are irrelevant. Thus, the editor dialog

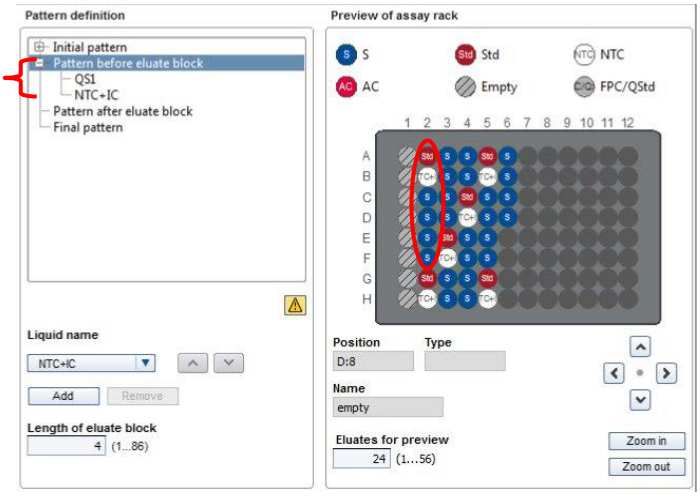
(**Assay Standards**, **Assay Controls**) hides the input fields in order to specify replicates for controls and standards.

Example for defining an output pattern:

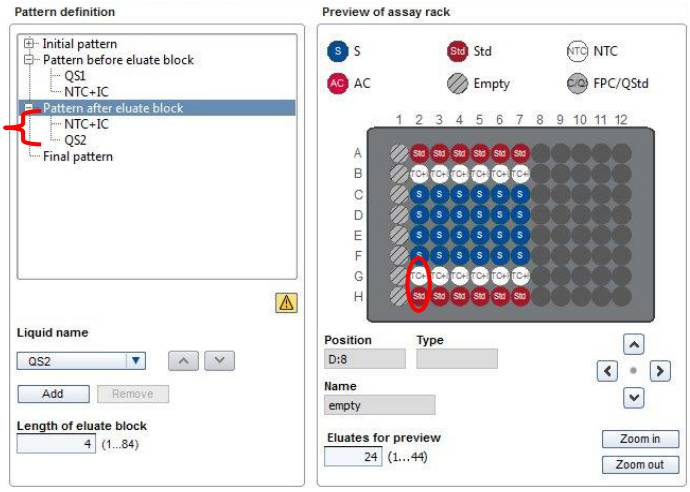
- The first column should not contain any liquids, thus define the **Initial pattern** with "empty" positions for the first column.
- Set the eluate block size to 4 eluates per block.



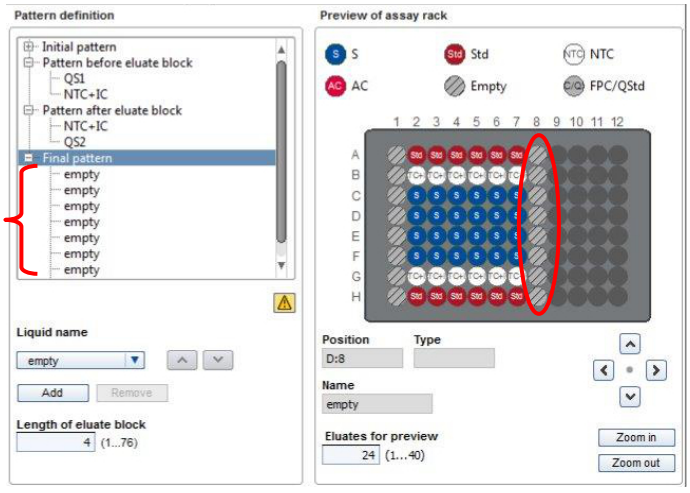
- Before each eluate block there should be control liquids. Therefore, a **Pattern before eluate block** should be defined with the given standard and a negative control.



- The remaining control liquids should be placed after each eluate block. Therefore, define a **Pattern after eluate block**.

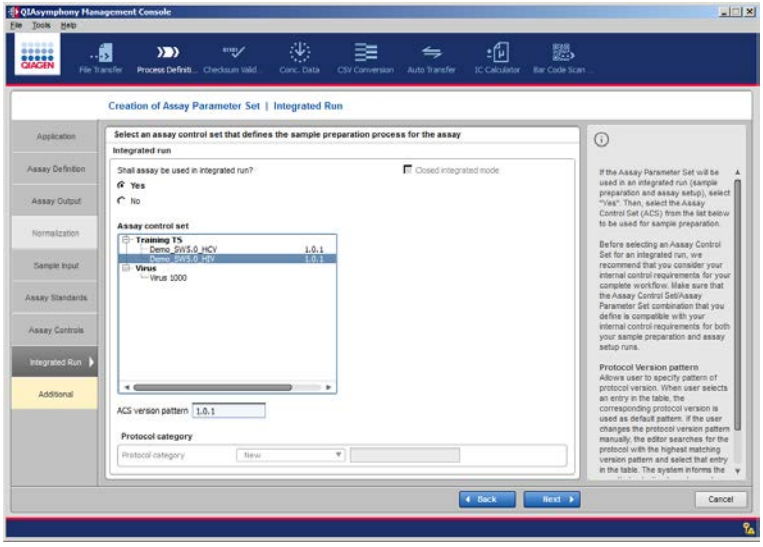


- The last column on the rack also should not contain any liquids, so, in the end, define a **Final pattern** that consists of empty positions.



39. Click **Next** to continue.

40. If a normalization step has not been included, the **Creation of Assay Parameter Set/ Integrated Run** dialog appears. If a normalization step has been defined, proceed to step 43.

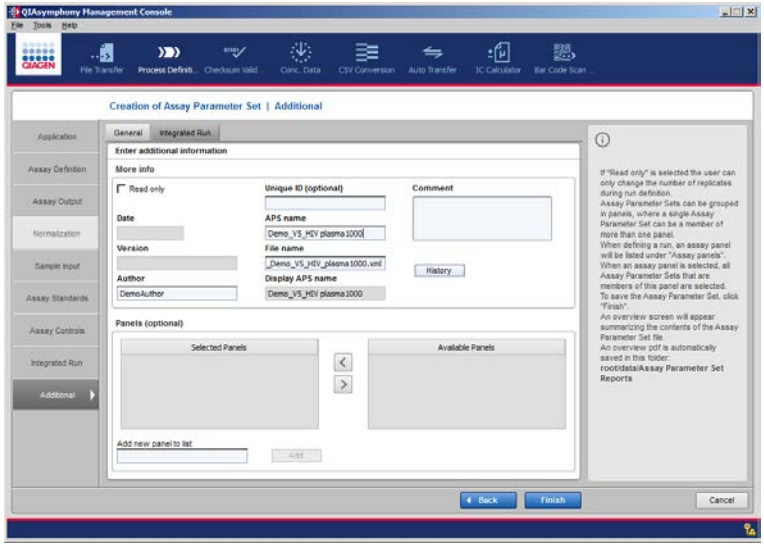


41. To use the Assay Parameter Set in an integrated run, select **Yes**. Then select the **Assay Control set** (ACS) to be used for sample preparation from the list. If the Assay Parameter Set will not be used in an integrated run, select **No**.

    Note: Before selecting an Assay Control Set for an integrated run, we recommend that the user considers the internal control requirements for the complete workflow. Ensure that the Assay Control Set/Assay Parameter Set combination defined is compatible with the internal control requirements for both the sample preparation and assay setup runs.

42. Click **Next** to continue.

43. The **Creation of Assay Parameter Set/Additional** dialog appears.



44. Enter the required information in the **More info** panel.

Read only	When defining a run, this option ensures that only the number of replicates can be changed using the touchscreen. Do not select this option when all parameters should be modified when defining a run.
Date	The date (dd/mm/yyyy) is automatically displayed and cannot be changed.
Author	If the user is logged in to the QIAsymphony the **Author** field is filled automatically (the name of the user is displayed). The entry field for **Author** is editable. If no user is logged in to the QIAsymphony via the QMC, the **Author** field is empty and a warning is displayed because the field must not be blank. The user must enter an author name for the edited APS. For more information, see Section 14.
Comment	Field for entering any alpha numerical text.
APS name	Enter a unique Assay Parameter Set name. **Note**: If the entered text contains spaces, a line break will be introduced after the first space.
Unique ID (optional)	Enter a unique alternative identifier (e.g., bar code) for the Assay Parameter Set. This alternative identifier can be used in work lists.
File name	The default file name ("Assay_Parameter_Set_name.xml") can be changed if required. **Note**: Spaces in the Assay Parameter Set name are replaced with the underscore ("_")

45. Optional: Define panel(s) for the Assay Parameter Set.

- Option 1: Select the name of an existing panel into which the new Assay Parameter Set will be sorted. All panels defined in Assay Parameter Sets saved in **root/data/AssayParameterSets** are listed in the **Available Panels** list. If a new Assay Parameter Set should be sorted in an existing panel name, move the panel to the **Selected Panels** list using the left arrow button.
- Option 2: Create a new panel by entering the new panel name in the **Add new panel to list** field, and then pressing **Add**. The new panel appears in the list of **Selected Panels**.

  Note: If the entered text contains spaces, a line break will be introduced after the first space.

Note: One Assay Parameter Set can be sorted in several panels.

When defining a run on the touchscreen for which Assay Parameter Sets are sorted into panels, the panel names are listed in **Assay Panels**. When selecting a panel from the list, all Assay Parameter Sets sorted in this panel are selected and appear in the **Selected Assays** list.

46. When all parameters have been correctly entered, the **Save** and **Finish** buttons are enabled.
47. Press **Finish** to save the new Assay Parameter Set. The overview PDF opens, displaying details about the newly created Assay Parameter Set.

    The overview is automatically saved as **root/data/AssayParameterSetReports/AssayParameterSetName.pdf** and appears in the **File Transfer** tool list. The overview can be printed.

16.7 Modifying an existing Assay Parameter Set

To modify an existing Assay Parameter Set, complete the following steps.

1. In the **File Transfer** tool, select **Assay Parameter Set** as the file type.
2. Select the Assay Parameter Set to be modified in the file list of the local path or network. The **Edit** button is enabled.
3. Click **Edit**.
4. Modify parameters as necessary, see Section 16.6. In addition, see "Creating and editing Assay Control Sets and Assay Parameter Sets" under the **Resources** tab at **www.qiagen.com**.
5. Click **Save** to save the newly created Assay Parameter Set. The dialog box will remain open and you can create additional Assay Parameter Sets, if required.
6. Click **Finish** to save the newly created Assay Parameter Set. The overview PDF opens, displaying details about the newly created Assay Parameter Set.

   The overview is automatically saved as **root/data/Assay ParameterSetReports/AssayParameterSetName.pdf** and appears in the **File Transfer** tool list. The overview can be printed.

17 Uploading Process Files to the QIAsymphony

Before modified process files can be used, the files must be uploaded to the QIAsymphony. Files can be uploaded using one of the following methods:

- When the PC is not connected to the QIAsymphony, using the USB stick (see Section 15.2.1)
- When the PC is connected to the QIAsymphony, using direct file transfer (see Section 15.1.2).

To upload process files using a USB stick, complete the following steps.

1. Transfer files to the USB stick using the **File Transfer** tool of the QMC (for more information, see Section 15.2.1).
2. Insert the USB stick into a USB port at the front of the QIAsymphony SP.
3. Transfer files to the QIAsymphony using the USB stick. For more information, see Section 8 of the *QIAsymphony SP/AS User Manual — General Description*.

All corresponding new process files in the corresponding directory on the USB stick will be transferred to the QIAsymphony.

18 Troubleshooting

Error	Comments and suggestions
Connection errors	
a) Invalid user name or password	Check whether the user name is correct. Make sure to enter the correct password.
b) Invalid session ID	If you restarted the QIAsymphony, be sure to reconnect to the instrument via the QIAsymphony Management Console.
c) Connection could not be established	Check the connection between the PC and the QIAsymphony. Make sure that the QIAsymphony is switched on. If a firewall is installed, make sure that it does not prevent connection to the QIAsymphony. Certain antivirus software has functionality to monitor and filter communication on port 80 (HTTP). This may lead to communication problems between the QMC and the instrument. Possible solutions: ● Change the communications port on the instrument from port 80 to another port. This should be performed by a service technician. ● Disable the HTTP port filtering function in the antivirus software.
File errors	
a) Type version mismatch	Software version of the QMC is not compatible with the application software version.
b) Unable to remove file	The file to be removed may be in use. Make sure that the file is not in use.
c) Unable to open file	The file to be opened may be in use. Make sure that the file is not in use.

Error	Comments and suggestions
Process definition: Assay Control Set errors	
a) Package name is invalid	The text before or after the first space is too long to be displayed in the touchscreen. Enter a shorter text before or after the first space.
b) There are no protocols saved on the local path	To define or modify an Assay Control Set, save the protocol on your local path, and start the procedure from the beginning again. No protocols are saved in **root/data/ BioScripts**. To be able to create or modify Assay Control Sets, the protocols for the Assay Control Sets must be saved in the **BioScript** directory on the local path. Copy the necessary files to **root/data/BioScripts**.
c) Internal control name is not unique	Enter a unique name for the internal control. If you want to use an existing internal control, select this from the available list. If you want to use a new internal control, enter a unique name.
d) Internal control name is invalid	The text before or after the first space is too long to be displayed in the touchscreen. Enter a shorter text before or after the first space.
e) Invalid internal control ID	The internal control identifier is invalid. A valid internal control identifier must contain at least 4 characters and a maximum of 44 characters. Enter a valid identifier.
f) Duplicate internal control ID	Internal control identifier is already in use; enter a unique identifier.
g) Assay Control Set name is invalid	The text before or after the first space is too long to be displayed in the touchscreen. Enter a shorter text before or after the first space.
h) Assay Control Set name is not unique	The Assay Control Set name is already in use. Enter a unique name.
i) Invalid file name	The file name is already in use. Enter a unique name.

Error	Comments and suggestions
Process definition: Assay Parameter Set errors	
a) Package name is invalid	The text before or after the first space is too long to be displayed in the touchscreen. Enter a shorter text before or after the first space.
b) There are no protocols saved on the local path	To define or modify an Assay Parameter Set, save the protocol on your local path, and start the procedure from the beginning again. No protocols are saved in **root/data/AssayParameterSets**. To be able to create or modify Assay Parameter Sets, the protocols for the Assay Parameter Sets must be saved in the **AssayParameterSets** directory on the local path. Copy the necessary files to r**oot/data/AssayParameterSets**.
c) Master mix not selected	Select whether a ready-to-use master mix should be used (**Yes**) or whether the individual components of the master mix shall be mixed by the QIAsymphony AS (**No**). **Note**: The Assay Definition defines if master mix creation is allowed or not. If not, creation of master mix cannot be selected within the Assay Parameter Sets.
d) Invalid replicates	**Number of replicates**: The entered value is out of range. Enter a value between 1 and 50.
e) Select whether the samples processed with this APS will contain an assay specific internal control (**Yes**) or whether the internal control shall be added to the master mix	There is no information about whether the samples do contain an assay specific internal control. Select whether they contain a specific internal control or not.
f) Define at least one assay standard which is pipetted to all assay racks (Check box **On all assay output racks**)	It is required that at least one assay standard is distributed on each assay rack. Check the box for one of the selected assay standards.

Error	Comments and suggestions
g) Following standard(s) are not present in Assay Definition: XY	The defined assay standard in the Assay Parameter Set is not available in the selected Assay Definition. Remove the assay standard from the list. To do this press **Modify** and afterwards select the standard and press **Remove**.
h) Following assay control(s) are not present in Assay Definition: XY	The defined assay control in the Assay Parameter Set is not available in the selected Assay Definition. Remove the assay control from the list. To do this, press **Modify** and afterwards select the control and press **Remove**.
i) Assay controls cannot be deactivated	The Assay Definition defines if deactivation of controls is allowed. If deactivation is desired, a customized Assay Definition is needed. Request a customized Assay Definition from the QIAGEN Application Lab.
j) The comment is invalid. Valid comments contain up to 200 arbitrary characters.	Enter a comment of up to 200 characters.
k) Assay Parameter Set name already exists	The Assay Parameter Set name is already in use. Enter a unique name.
l) UID already exists in XY	The entered alternative unique identifier already exists in the displayed Assay Parameter Set. Enter a new unique identifier.
m) Unknown output format: XY	The selected Assay Parameter Set contains an unused output format. Select an available assay output format and ensure that the respective labware file is installed.
n) Invalid cycler file format	The selected Assay Parameter Set contains an invalid cycler file format. Either select **None**, or assign a compatible cycler file.
o) Invalid panel list: Panel list contains invalid panel	The selected Assay Parameter Set contains an invalid panel. Remove the panel from the list.
p) Defined dye has no name	No name was defined for the dye during Assay Parameter Set definition. Make sure that a name is given when defining a new dye.

Error	Comments and suggestions
q) Newly created Assay Control Set is not available in the ACS-selector in the APS editor	Restart the QIAsymphony Management Console to make the new ACS available in the APS editor.
QIAGEN File Transfer service errors	
a) No printer selected	To print a test page, make sure to select a printer. If printing is successful, **Test page sent to printer** will be displayed.
b) Failed to send test page to printer	The test page was not printed on the selected printer. Check that the printer is correctly connected.
c) Cannot add instrument. Please fill out the instrument field	The user pressed the **Add** button but did not enter the host name of the instrument into the **Instrument** field. Make sure to add the host name.
d) Invalid port number. Please enter a numeric port number between 1 and 65535 (inclusive)	The user pressed the **Add** button and entered an incorrect port number. Enter a port number between 1 and 65535 (inclusive) or leave the **Port** field empty.
e) Test connection. No instruments to be checked	The user pressed the **Test** button but did not select the instrument to be tested. To test the connection, make sure to select an instrument.
f) Saving failed. Could not save configuration to file. See the log file for detailed information	The user pressed **Save** but the file was not successfully saved. See the log file for the reasons for the failure (**root\log\PluginFileTransferConfiguration.log**).
g) Error when reading from file. File transfer is not processed	File transfer was unsuccessful. The **QIAGEN File Transfer** service will wait for one minute and will then try to read the configuration file again providing no action is performed. If the problem persists, contact QIAGEN Technical Services.
h) Directory X referenced in file Y does not exist. File transfer is not processed	File transfer was unsuccessful. After the interval specified in the configuration file, the **QIAGEN File Transfer** service tries to reload the configuration file and to validate it. Check whether the directory was deleted.
i) Connection to instrument X failed	Connection to the selected instrument was unsuccessful. The PC will try to connect to the instrument again based on the time set in the **Polling Interval** field.

Error	Comments and suggestions
j) File X was not received by Y. Transfer of file X to Y failed	Data transfer from the QIAsymphony to the PC or from the PC to the instruments was unsuccessful. Transfer the file manually.
k) File X could not be deleted on Y	The file was successfully transferred from the QIAsymphony to the PC or the PC to the instrument but could not be deleted from the instruments. Delete the file manually.
l) File X was received from Y but unzipping on PC failed	The file was successfully transferred to the PC but could not be unzipped. Unzip the file manually.
m) Files not available	If files to be uploaded/downloaded are not available on the PC or the QIAsymphony, make sure that: • The defined root directory is correctly set. Different user settings of the root directory are not supported! Only one root directory should be defined! • Only one QMC has activated the automatic file transfer function. Avoid having several QMCs with active automatic file transfer functions and different root directories active at the same time.

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