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QIAsymphony[®] SP/AS – Operating the QIAsymphony SP

For use with software version 5.0



CE



R1 **MAT**

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Contents

1	Introduction	8
1.1	Provided user documents	8
1.2	About this user manual	9
1.3	General information	9
1.3.1	Technical assistance	9
1.3.2	Policy statement	9
1.4	Intended use of the QIASymphony SP	10
2	Operating the QIASymphony SP	11
2.1	Getting started	11
2.2	Starting the Wizard	12
2.3	Loading the “Waste” drawer	13
2.4	Closing the “Waste” drawer	17
2.4.1	Inventory scan of the “Waste” drawer	17
2.5	Loading the “Eluate” drawer	17
2.5.1	Inventory scan of the “Eluate” drawer	24
2.6	Loading the “Reagents and Consumables” drawer	25
2.6.1	Loading reagents	25
2.6.2	Assembling and loading reagent cartridges	26
2.6.3	Loading the buffer bottle	30
2.6.4	Loading the Accessory Trough	31
2.6.5	Loading consumables	31
2.6.6	Loading tip racks	33
2.6.7	Loading unit boxes	34
2.6.8	Inventory scan of “Reagents and Consumables” drawer	35
2.7	Loading the “Sample” drawer	36
2.7.1	Loading samples using a tube carrier	37
2.7.2	Loading samples using a plate carrier	39
2.8	Resolving errors of sample/internal control tubes or sample IDs	42
2.8.1	Correction of duplicate bar codes	42

2.8.2	Generating a virtual bar code after a bar code reading error	43
2.8.3	No virtual bar code generated after bar code reading error	44
2.8.4	Sample tube/IC tube insert reading errors	45
2.8.5	Overwriting the default sample tube/IC tube type.....	46
2.9	Use of virtual bar codes if tubes are not labeled with bar codes	47
2.10	Configuring the sample type	48
2.11	Defining a batch/run (queuing)	49
2.11.1	Samples loaded in the tube carrier	49
2.11.2	Samples loaded in the plate carrier	54
2.12	Defining a batch/run using "Fast Setup"	61
2.12.1	"Fast Setup" with samples loaded in tube carrier	61
2.12.2	"Fast Setup" with samples loaded in plate carrier	63
2.13	Loading internal controls	66
2.14	Partial inventory scan	68
2.15	Starting a run	69
2.15.1	Information available in the Sample View screen after loading samples	70
2.15.2	Batch validation	70
2.16	Continuous loading of samples/internal controls	71
2.16.1	Setting up a batch	72
2.16.2	Loading internal controls	73
2.16.3	Suspended batch.....	73
2.17	Pausing, resuming and stopping a run	74
2.17.1	Pausing a run.....	74
2.17.2	Resuming a run	75
2.17.3	Stopping a run	75
2.17.4	Canceled run	75
2.18	End of batch processing/run.....	76
2.19	Unloading the QIASymphony SP.....	76
2.19.1	Unloading the "Eluate" drawer.....	76
2.19.2	Unloading reagents and consumables.....	82
2.19.3	Unloading samples	84

2.19.4	Unloading internal controls	85
2.20	Removing a batch.....	86
2.20.1	Samples loaded in the tube carrier	87
2.20.2	Samples loaded in the plate carrier	87
2.21	End of working day	88
2.22	Operating individual components of the QIA Symphony SP	88
2.22.1	Maintenance SP dialog panel.....	89
2.23	Cleanup	91
3	Sample Preparation User Interface	94
3.1	Starting the QIA Symphony software	95
3.2	Software features common to all screens	95
3.2.1	General screen elements	95
3.2.2	Up and down arrows	96
3.2.3	Messages	97
3.3	Status bar	97
3.3.1	Batch status icon.....	98
3.3.2	Drawer buttons.....	98
3.3.3	Date and time	100
3.3.4	User logged in	100
3.4	Command bar.....	101
3.4.1	General buttons.....	101
3.5	Schematic plates	101
3.6	Screens (all menus)	102
3.6.1	Keyboard screen	102
3.6.2	Sample Preparation/Define Sample Rack Type screen.....	104
3.6.3	Consumables/Cartridges/Filter-Tips screen	106
3.6.4	Waste screen	108
3.6.5	Eluate Drawer/Elution Slot/Configure Racks screen	108
3.6.6	Eluate Drawer/Elution Slot/Change Rack X screen.....	109
3.7	Tools screen	109

3.8	Sample Preparation menu.....	111
3.8.1	Login screen.....	113
3.8.2	Sample Preparation tab – Sample Preparation/Overview screen.....	113
3.8.3	Sample Preparation tab – Sample Preparation/Sample View screen.....	118
3.8.4	Sample Preparation/Define Sample Rack Type screen.....	120
3.8.5	Sample Preparation/Batch X/Define Samples screen (tube carrier)	121
3.8.6	Sample Preparation/Batch X/Define Samples screen (plate carrier)	125
3.8.7	Sample Preparation/Batch X/Select Work Lists screen	127
3.8.8	Sample Preparation/Batch X/Select Assay Control Sets screen	128
3.8.9	Sample Preparation/Elution Slot & Volume screen	130
3.8.10	Sample Preparation/Fast Setup/Select ACS screen	132
3.8.11	Sample Preparation/Define Sample Rack Area screen.....	133
3.8.12	Sample Preparation/Define Sample Rack Type screen.....	135
3.8.13	Sample Preparation/Fast Setup Plates screen.....	135
3.8.14	Sample Preparation/Internal Controls screen	137
3.8.15	Eluate Drawer/Elution Slot screen.....	139
3.8.16	Eluate Drawer/Elution Slot/Change Rack X screen.....	141
3.8.17	Eluate Drawer/Elution Slot/Configure Rack X screen.....	145
3.8.18	Eluate Drawer/Elution Slot/Scan Drawer screen.....	146
3.8.19	Wizard/ACS and Number of Samples screen.....	147
3.8.20	Wizard/Load Waste Drawer screen.....	148
3.8.21	Wizard/Elution Slot screen	149
3.8.22	Wizard/Elution Slot/Configure Rack X screen	149
3.8.23	Wizard/Elution Slot/Change Rack X screen	149
3.8.24	Wizard/Load Reagents screen	149
3.8.25	Wizard/Load Consumables screen	150
3.8.26	Wizard/Sample Loading Summary screen.....	151
3.8.27	Wizard/Select Sample Carrier screen.....	152
3.8.28	Wizard/Load Sample Tubes screen.....	152
3.8.29	Wizard/Load Sample Plate Carrier screen.....	153
3.8.30	Wizard/Load IC Tubes screen	154

3.8.31	Wizard/Batch X/Select Work Lists screen	154
3.8.32	Wizard/Batch X/Select Assay Control Sets screen	154
3.8.33	Wizard/Elution Slot & Volume screen.....	154
3.8.34	Wizard/Define Sample Rack Area screen	155
3.8.35	Wizard/Define Sample Rack Type screen	155
3.8.36	Wizards/Internal Controls screen.....	155
3.9	Configuration menu	155
3.10	Maintenance SP menu	155
3.10.1	Maintenance SP screen.....	156
3.11	User Management menu.....	156
3.11.1	User Management/Please select user screen	156
3.11.2	User Management/Please enter your new password screen.....	158
3.11.3	Create User screen.....	159
3.11.4	Assign Roles screen	159
3.12	Service SP menu	161
3.12.1	Script Execution tab	161
3.13	File Transfer menu	163
3.13.1	In-/Output Files tab	164
3.13.2	Process Files tab	166
3.13.3	Instr. Setup tab.....	168
3.14	Instrument Report menu.....	171
3.14.1	Overview tab	171
3.14.2	Configuration tab	172
3.14.3	Errors tab	172
3.14.4	Protocols tab.....	173
3.14.5	Inventory tab	174
3.14.6	Labware tab	175
3.14.7	Hardware tab	175
3.14.8	Counters tab	176

3.15	Rack Browser menu	177
3.15.1	Sample Racks tab	177
3.15.2	Eluate Racks tab	178
3.16	Labware Browser menu	180
3.16.1	Tube Carrier screen	180
3.16.2	Racks screen	183
	Index	187

1 Introduction

Thank you for choosing the QIASymphony SP instrument. We are confident they will become an integral part of your laboratory.

Before using the QIASymphony SP, it is essential that you read the user manuals carefully and pay particular attention to the safety information. The instructions and safety information in the user manuals must be followed to ensure safe operation of the instruments and to maintain the instruments in a safe condition.

**WARNING/
CAUTION**



Risk of personal injury and material damage

Improper use of the QIASymphony SP may cause personal injuries or damage to the instrument.

The QIASymphony SP must only be operated by qualified personnel who have been appropriately trained.

Servicing of the QIASymphony SP must only be performed by QIAGEN Field Service Specialists.

1.1 Provided user documents

The QIASymphony SP is 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 (this user manual)

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

QIASymphony Management Console User Manual

- Provides details about how to use the QIASymphony Management Console. This includes how to use the **File Transfer**, **Checksum Validation**, **Process Definition** editor tool, **CSV Conversion** and **Automatic File Transfer** tools.

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.

If you have a QIASymphony AS, the following user manual will also be provided:

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.

1.2 About this user manual

This user manual describes how to operate the QIASymphony SP and provides information in the following sections:

1. Introduction
2. Operating the QIASymphony SP
3. Sample Preparation User Interface

1.3 General information

1.3.1 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 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).

1.3.2 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.

1.4 Intended use of the QIAasymphony SP

The QIAasymphony SP instrument is designed to perform automated purification of nucleic acids.

It is intended to be used only in combination with QIAasymphony kits indicated for use with the QIAasymphony SP for the applications described in the kit handbooks.

The QIAasymphony SP is intended for use by professional users, such as technicians and physicians trained in molecular biological techniques and the operation of the QIAasymphony SP instrument.

2 Operating the QIASymphony SP

This section describes how to operate the QIASymphony SP instrument, including how to load and unload the worktable.

Before proceeding, we recommend that you familiarize yourself with the features of the instrument by referring to Section 3 of the *General Description*.

The QIASymphony Operating Software is described in detail in Section 3 of this user manual.

The hood of the QIASymphony SP must remain closed during operation of the instrument. Only open the hood when instructed to do so by the software or when carrying out maintenance procedures (see Section 9 of the *General Description*).

WARNING



Moving parts

To avoid contact with moving parts during operation of QIASymphony SP, the instrument must be operated with the hood closed.

If the hood sensors are not functioning correctly, contact QIAGEN Technical Services.

2.1 Getting started

See Section 5 of the *General Description* for details about switching on the QIASymphony SP/AS instruments, getting started, logging in and logging out. See Section 7 of the *General Description* for details on managing users.

The QIASymphony SP Operating Software has a Wizard to guide you step-by-step through setting up a run. The Wizard takes you through:

- Loading the “Waste” drawer
- Loading the “Eluate” drawer
- Loading the “Sample” drawer
- Defining a batch/run with or without work lists
- Loading internal controls

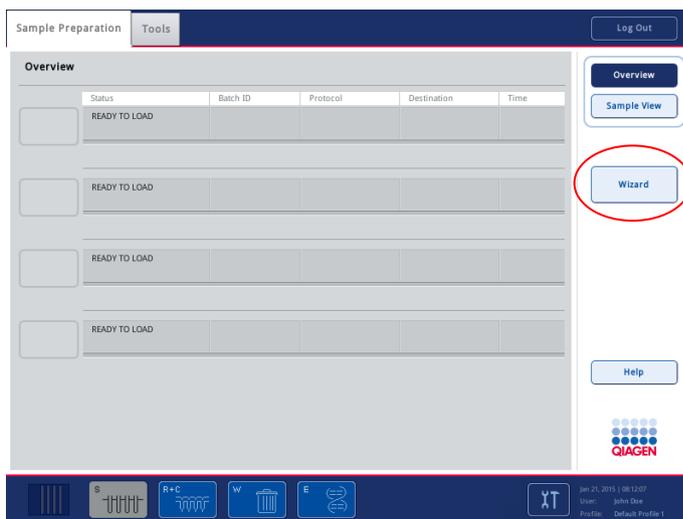
It is possible to set up a run on the QIASymphony SP with or without the Wizard. For more information about how to do this, please refer to the individual QIASymphony kit handbooks.

Note: If a QIASymphony AS has been installed, the Wizard can only be used for sample preparation runs and not for integrated runs.

Note: The loading steps, described below in detail for the Wizard, can also be used for the integrated run.

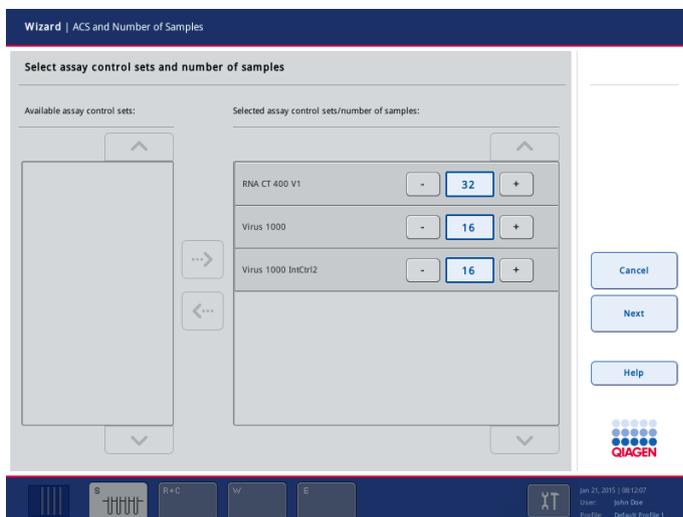
2.2 Starting the Wizard

1. Press **Wizard** in the **Sample Preparation** screen.



Sample Preparation screen.

The **Wizard/ACS and Number of Samples** screen appears.



Wizard/ACS and Number of Samples screen.

Note: When this screen is open, all drawers are locked.

Note: An error message will appear when **Wizard** is pressed in the following situations:

- If a plate carrier is already loaded in the “Sample” drawer.
- If a plate carrier has not been loaded, but there are batches that are already defined to be loaded using the plate carrier.
- If a tube carrier is already loaded in the “Sample” drawer, but no batch has been defined to be loaded using the tube carrier.
- 4 batches have already been queued.

2. Press on Assay Control Sets in the left-hand panel and then press on the right arrow to select them. Once selected, the Assay Control Sets will move across to the right panel.
3. Use the “+” and “-” buttons to adjust the number of samples that will be processed with each Assay Control Set. Alternatively, press directly on the number and adjust the number using the virtual keyboard.

If there are no batches currently being processed, a maximum of 4 batches (i.e., a total of 96 samples) can be defined. If some batches have already been queued, the maximum number of samples/batches that can be defined are reduced by the number that have already been queued. For instance, if 20 samples have already been queued, it is not possible to define more than 72 samples and 3 batches.

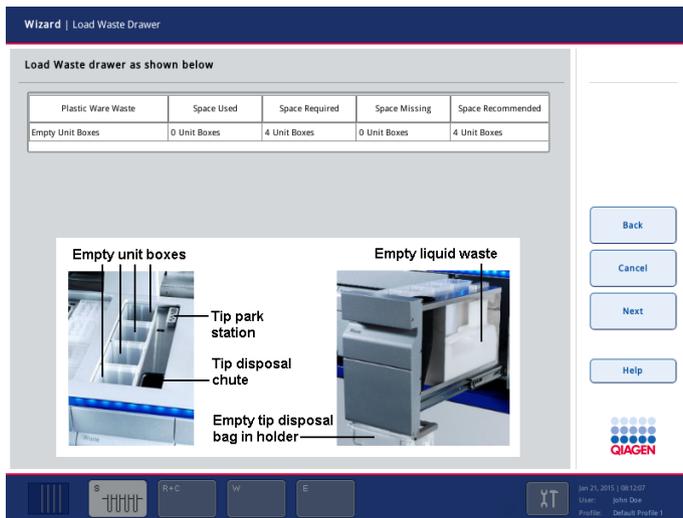
4. Press **Next** to continue. The **Wizard/Load Waste Drawer** screen appears (Section 2.3).

Note: Although the Wizard cannot be used with integrated runs, the steps for loading the QIASymphony SP are the same for independent runs (which allow for Wizard use) and integrated runs.

2.3 Loading the “Waste” drawer

The **Wizard/Load Waste Drawer** screen summarizes the items that need to be loaded into the “Waste” drawer in the diagrams. The table indicates the required unit boxes, the number of missing unit boxes and the total number of recommended unit boxes.

Note: When the **Wizard/Load Waste Drawer** screen is open, it is only possible to open the “Waste” drawer. All other drawers are locked.



Wizard/Load Waste Drawer screen.

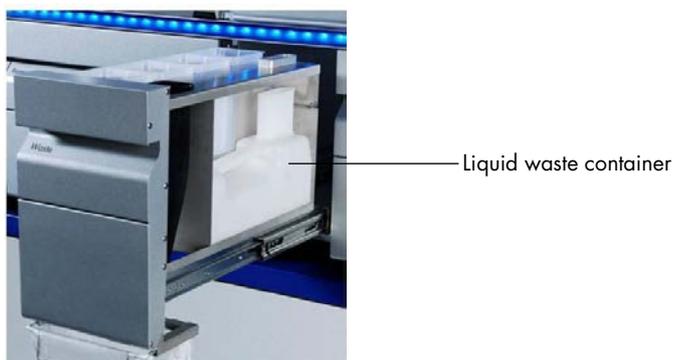
We recommend loading items into the “Waste” drawer in the following order, as outlined in the following sections:

1. Insert empty liquid waste container (be sure to remove lid before placing into the drawer).
2. Insert tip chute.
3. Insert tip park station.
4. Insert empty unit boxes (make sure there is an empty unit box in slot 4).
5. Install empty tip disposal bag.

Liquid waste container

The liquid waste container is used to collect all liquid waste generated during sample preparation.

The QIAsymphony SP checks that the liquid waste container is in the “Waste” drawer. If the liquid waste container is not in place in the “Waste” drawer, the “Waste” drawer cannot be closed.



The “Waste” drawer can only be closed when the liquid waste container is in place.

Note: Make sure to empty the liquid waste container at the end of each run.

Note: Be careful when handling the liquid waste container. It may contain infectious material.

CAUTION



Hazardous materials and infectious agents

The waste contains samples and reagents. This waste may contain toxic or infectious material and must be disposed of properly. Refer to your local safety regulations for proper disposal procedures.

To load the liquid waste container into the “Waste” drawer, follow the steps below:

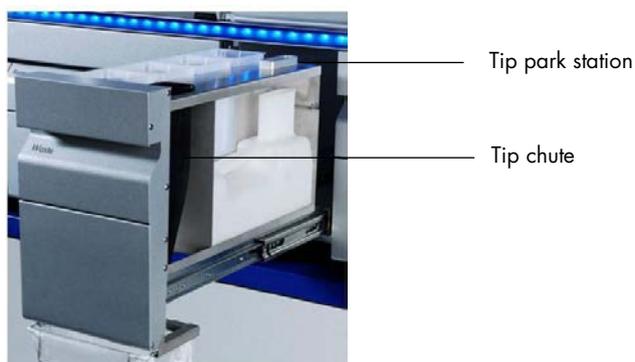
1. Open the drawer.
2. Place the liquid waste container into the front section at the right. Press the container downward.

Note: Make sure to remove the lid from the liquid waste container before you load the container into the drawer.

Tip chute

The tip chute enables collection of used disposable filter-tips from the pipetting system. Used tips are collected in a tip disposal bag.

Load the tip chute into the “Waste” drawer as shown in the diagram below. The tip chute will be detected during the inventory scan.



Note: Make sure to load the tip chute and install a tip disposal bag before running a sample batch.

Note: If using the QIA Symphony SP instrument with the QIA Symphony Cabinet SP, see the *QIA Symphony Cabinet SP/AS User Guide* for information about set up of the tip chutes.

Tip park station

The tip park station is on top of the liquid waste container. It channels liquid waste from the filter tips into the liquid waste container and also enables temporary storage of filter-tips that will be reused in a later protocol step.

To load the tip park station into the “Waste” drawer, follow the steps below:

1. Open the “Waste” drawer.
2. Insert the tip park station as shown in the diagram on the previous page.
3. Ensure that the tip park station is properly inserted; otherwise an error may occur during the inventory scan.

The tip park station will be automatically detected during the inventory scan.

Unit boxes

Used sample prep cartridges and 8-Rod Covers are collected in unit boxes. There are 4 slots for unit boxes in the “Waste” drawer. For increased ease of use and process safety, unit boxes can be loaded only in the correct orientation. Make sure to remove the lids from unit boxes before loading into the “Waste” drawer. The spacer at the bottom of an empty 8 Rod Cover unit box must also be removed before the unit box is placed into the “Waste” drawer otherwise an error may occur during the inventory scan. Depending on the purification procedure being run and the number of samples, the space needed for used consumables in the “Waste” drawer will vary. Make sure that there is sufficient space in the unit boxes for collection of used consumables. For detailed information about consumables consumption, refer to the kit handbook.

To load the “Waste” drawer with unit boxes, follow the steps below:

1. Open the “Waste” drawer.
2. Remove the lid from the unit box. If the unit box contains a spacer, make sure to remove this.
3. Place the unit box into one of the unit box slots.

Note: Do not empty partially filled unit boxes. Partially filled unit boxes will be detected during the inventory scan and can be used until they are full.

Do not throw away the lids of open unit boxes. They can be used to cover partially filled unit boxes.

Note: An empty unit box must be placed into slot 4. During initialization, the handler goes down into the unit box in position 4. If it was not empty, the handler would crash.

Tip disposal bag

Note: The instrument does not check for the presence of a tip disposal bag. If a QIASymphony Cabinet SP is not used and a tip disposal bag is not installed, tips will not be collected and will fall to the surface below the instrument.

Note: When using the QIASymphony SP instrument in combination with the QIASymphony Cabinet SP, the installation of a tip disposal bag is not required. In this case, tip disposal occurs directly into the waste containers located in the QIASymphony Cabinet SP.

For details about how to mount the tip disposal bag, see Section 9.9 in the *General Description*.

2.4 Closing the “Waste” drawer

After loading the “Waste” drawer, close the drawer, and press **Next** in the Wizard. An inventory scan of the “Waste” drawer is performed. The **Wizard/Elution Slot/Configure Rack 1** screen then appears (Section 2.5).

2.4.1 Inventory scan of the “Waste” drawer

The inventory scan of the “Waste” drawer consists of a laser scan. Neither 2D bar code scans nor liquid-level checks are performed.

Laser scan

1. Liquid waste slot and tip park station slot are scanned. This checks that the liquid waste container and tip park station are in the drawer.
2. The tip chute slot is scanned. This checks that the tip chute is installed.
3. The unit box slots are scanned. First of all, each of the 4-unit box slots is scanned to detect whether a unit box is in the slot. Afterwards, the content of each box is determined (e.g., amount and type of consumables in each box).

2.5 Loading the “Eluate” drawer

The **Wizard/Elution Slot/Configure Racks** screen enables you to configure elution racks. It is only possible to continue with the Wizard once an inventory scan of the “Eluate” drawer has been successfully performed.

Purified nucleic acids and proteins are transferred to the “Eluate” drawer. The “Eluate” drawer contains 4 slots that can be used for elution into plates or tubes. Elution slots 2–4 can accommodate

plates or tubes in special adapters. Elution slot 1 enables eluate cooling and requires use of a specially designed cooling adapter.

Optional: If the QIASymphony SP is connected to a QIASymphony AS, you can perform automatic transfer of an elution rack from “Elution slot 1” to slot 2 of the QIASymphony AS via the transfer module. To do this, an elution frame must first be installed on “Elution slot 1”. For more details about the transfer module and installation of the transfer frame, see Section 3.8.2 and 3.8.3 of the *General Description*.

Adapters are available for the following types of consumables:

- Microplate, round bottom
- Sarstedt® screw-cap tubes (2 ml)
- PCR plate
- 96-well plates
- Snap cap microtubes
- Elution Microtubes CL (cat. no. 19588)

For more information about the types of 96-well plate and tubes that can be used in the “Eluate” drawer, go to www.qiagen.com/goto/QIASymphony.

Depending on the protocol being run, eluate cooling may be possible. Refer to the handbook supplied with the QIASymphony kit you are using for more information about cooling options.

Cooling parameters are defined in the protocol. In some protocols, the user may be able to choose whether to leave eluate cooling on or to turn it off. However, we do not recommend turning off eluate cooling if this is required by the protocol.

Note: Ensure that elution racks or tubes are compatible with the QIASymphony SP. In some cases, an additional adapter may be required to accommodate the tubes in the elution slots of the “Eluate” drawer.

Ensure that the plates and racked tubes are held securely in the slot by the white pins.

If applicable, remove the lid of the eluate labware before loading.

Note: If using Elution Microtubes CL racks, remove the bottom by gently twisting the rack until the bottom separates before loading into the respective cooling adapter.

Note: You cannot use a 96-well plate on “Elution slot 4”.

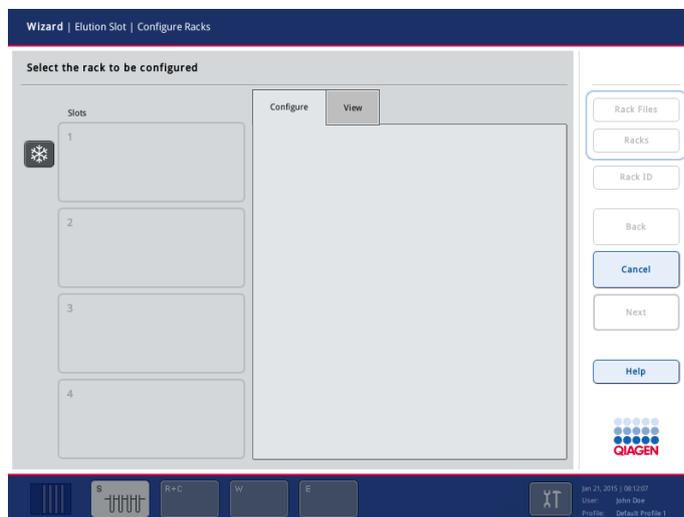
The “Eluate” drawer is locked:

- During transfer of eluates from sample prep cartridges to the elution rack
- During the inventory scan of the “Eluate” drawer
- During transfer of eluates from the QIAasymphony SP to the QIAasymphony AS via the transfer module
- During integrated runs (if QIAasymphony AS is installed)

At all other times, the “Eluate” drawer can be opened or closed.

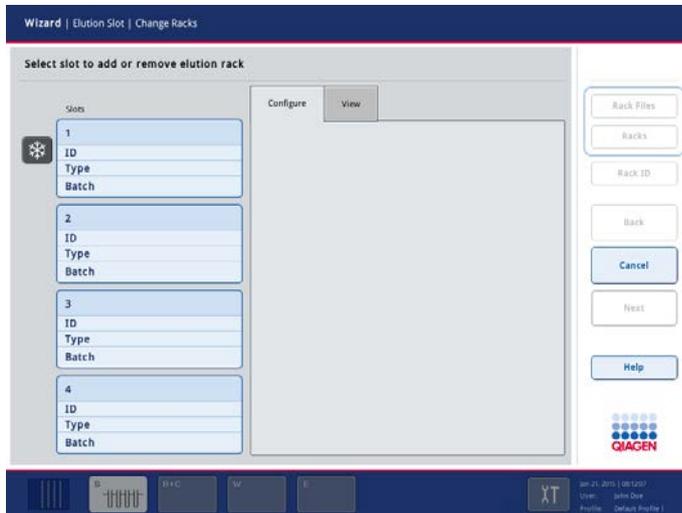
To load the “Eluate” drawer, proceed as follows:

1. Prepare the elution racks.
2. If required, place elution racks into the appropriate adapter (for more information about elution racks and adapters, go to www.qiagen.com/goto/QIAasymphony).
3. When the **Wizard/Elution Slot/Configure Racks** screen appears, open the “Eluate” drawer.



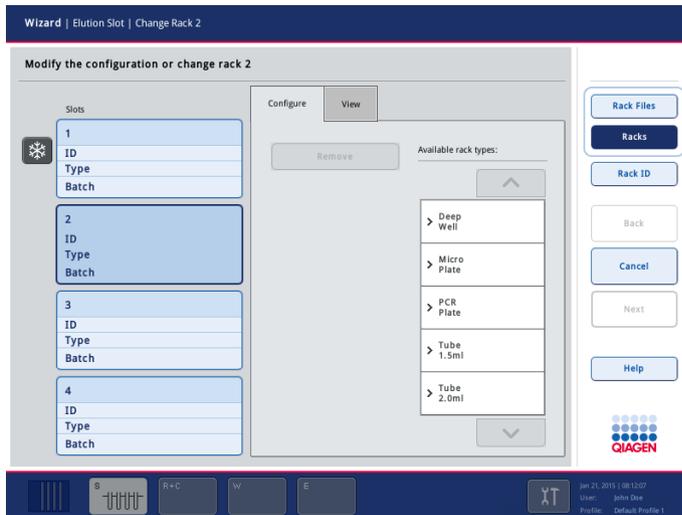
Wizard/Elution Slot/Configure Racks screen.

4. The **Wizard/Elution Slot** screen appears.



Wizard/Elution Slot screen

5. Press on the slot button in the touchscreen of the elution slot that you want to add a rack to.



Wizard/Elution Slot/Change Rack 2 screen.

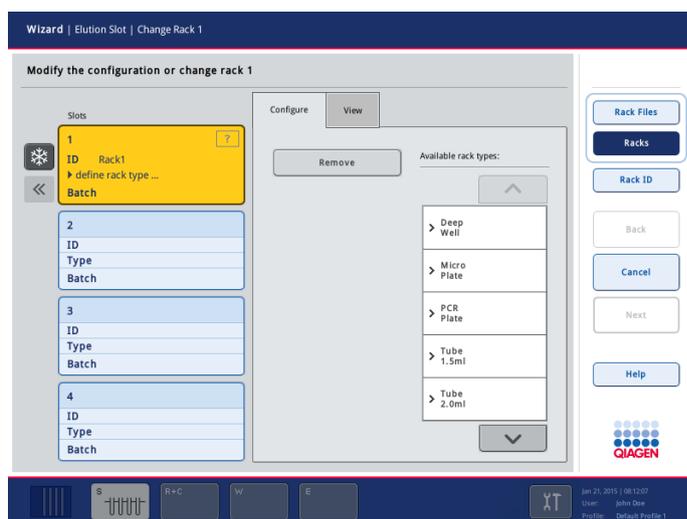
6. If the eluate rack is bar code labeled, scan the bar code using the handheld bar code reader. Alternatively, select the **Configure** tab, press **Rack ID**, and enter the eluate rack ID manually using the **Keyboard** screen that appears.

Note: This step is optional for instruments with software configuration 2 or 3. If your QIASymphony SP has configuration 1, you must enter or scan an elution rack ID. For instruments that have configuration 2 or 3, the software will automatically create an eluate

rack ID. For further details about the different software configurations, see Section 6.2.1 of the *General Description*.

Note: In case of using an eluate rack with 2D bar coded tubes, the eluate tube bar code is appended to the ID of the sample ID with a blank in between within the result file. Make sure that the rack ID is identical to the rack ID used during manual scan of the eluate rack on an external 2D bar code reader. See Section 6.2.2 of the *General Description* for information on enabling eluate racks with 2D bar coded tubes.

The entered eluate rack ID is displayed in the **Wizard/Elution Slot/Change Rack X** screen. The slot is colored yellow to indicate that the rack type needs to be defined.



7. Place the eluate rack, with well A1 in the upper-left corner, onto the desired elution slot. Make sure that the rack is held securely by the white pins.

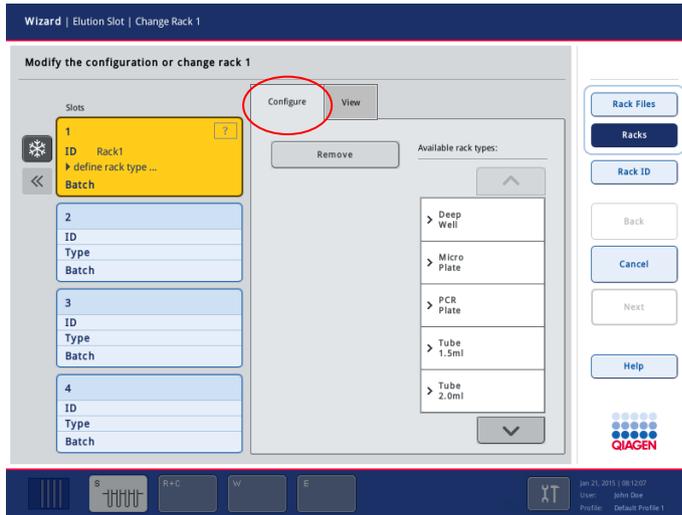
If the protocol requires eluate cooling, make sure to use “Elution slot 1”. Place the eluate rack into the appropriate cooling adapter.

Note: If using the transfer module for direct transfer to the QIAAsymphony AS, also install the transfer frame (see Section 3.8.3 of the *General Description*).

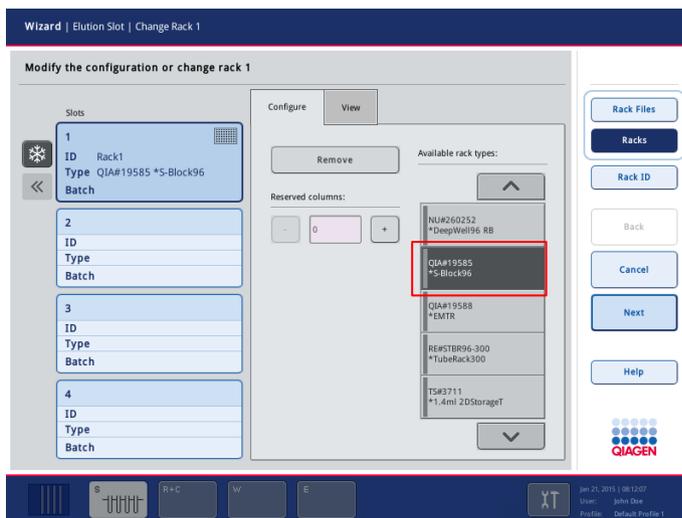
If using elution slots 2–4, an adapter may be required depending on the elution rack being used.

8. Press **Configure** to display the list of available rack types. Use the up and down arrows to scroll through the list.

The list shows all available elution rack types for the selected category.

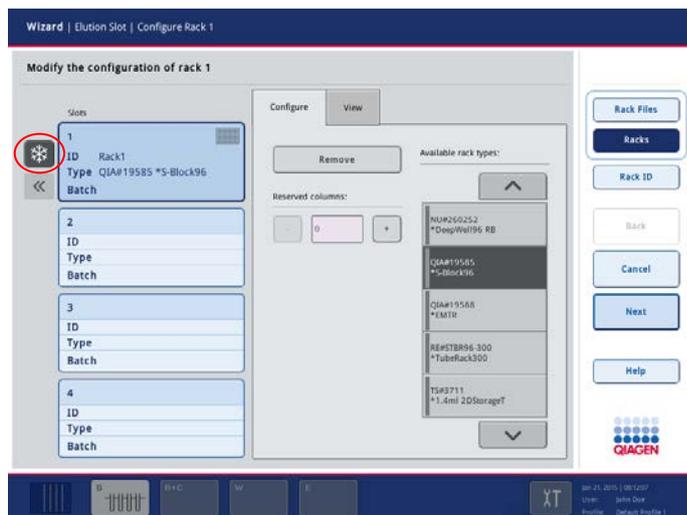


9. Select the elution rack type from the list. Use the up and down arrows to scroll through the list.



Note: The QIAsymphony SP provides automated assignment of elution racks. If you are using an Elution Microtube Rack (EMTR), scan the bar code of the rack and the elution rack type will be automatically selected by the QIAsymphony SP.

10. If the protocol requires elution rack cooling, be sure to use "Elution slot 1". Elution rack cooling can be turned off by pressing the snowflake button to the left of elution slot 1. However, we do not recommend turning off elution rack cooling if this is required by the protocol.



Note: If the elution rack was used in a previous run, cooling will be switched on by the QIASymphony SP automatically when the next batch is ordered.

Important: If there are already eluates in the “Eluate” drawer, ensure that the cooling temperatures are suitable for these eluates. Otherwise the eluates in the “Eluate” drawer may be given the status “invalid”. The QIASymphony SP cannot detect whether cooling temperatures are suitable for eluates that are already in the “Eluate” drawer.

The “Reserved Columns” option becomes available after a rack type has been selected. Columns on the left side of the rack can be marked as reserved for other purposes and will remain untouched by the batch processing.

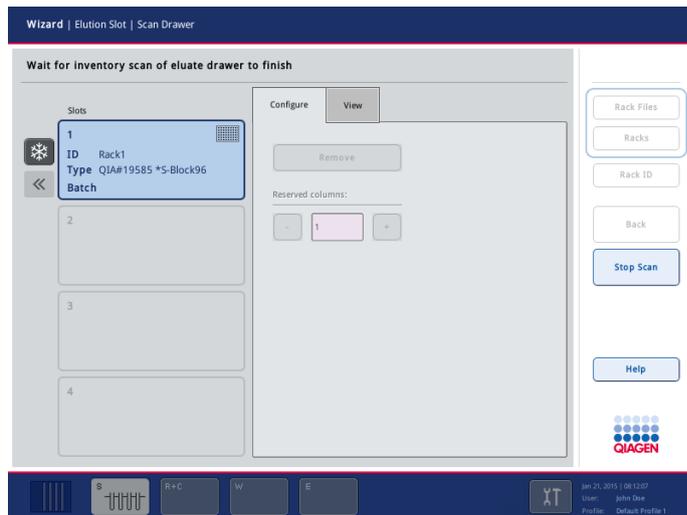
Note: The maximum number of columns that can be reserved depends on the rack size and on the batches which are already queued for that slot.

11. If you need to load more elution racks in the “Eluate” drawer, repeat steps 5–10.
12. Close the “Eluate” drawer and press the **Next** button.

The QIASymphony SP performs an inventory scan of the “Eluate” drawer. Sample processing pauses and the robotic arm moves to the “Eluate” drawer to check that selected elution slots contain an elution rack.

When the inventory scan starts, the **Wizard/Elution Slot/Scan Drawer** screen appears. For more details about the inventory scan, see the following section.

Note: It is not possible to proceed to the next screen until the inventory scan is complete.



Wizard/Elution Slot/Scan Drawer screen.

When the inventory scan is finished, the **Wizards/Load Reagents** screen appears (Section 2.6.1).

2.5.1 Inventory scan of the “Eluate” drawer

The QIAAsymphony SP will check all 4 elution slots to make sure that selected elution slots contain a cooling adapter or an elution rack. If a discrepancy is detected, a message will be displayed in the touchscreen. Open the “Eluate” drawer and place the elution rack(s) onto the correct position(s).

Note: When non-bar-coded adapters are used, the QIAAsymphony SP only detects the position of each elution rack and is not able to identify the elution rack type on the respective elution slot. Make sure to enter the correct information about elution racks in the **Wizard/Elution Slot/Add Elution Rack** screen. In addition, the QIAAsymphony is not able to check the orientation of the elution rack. Make sure that the elution rack is loaded with the correct orientation. Use of tubes different to those entered in the **Wizard/Elution Slot/Add Elution Rack** screen may result in an error during elution and could cause damage to the QIAAsymphony SP.

Processing of the active sample batch will be resumed as soon as the inventory scan finishes successfully.

Note: If the instrument pauses, the samples will be flagged as “unclear”.

Note: If the QIAAsymphony SP could not detect the elution positions, repeat the scan. If the problem persists, contact QIAGEN Technical Services.

Note: If a QIA Symphony AS is connected, but no transfer frame is installed, an error message will appear indicating that it is not possible to transfer the eluate rack from the QIA Symphony SP to the QIA Symphony AS.

2.6 Loading the “Reagents and Consumables” drawer

For increased user safety, reagents and consumables are loaded into the “Reagents and Consumables” drawer. Simply open the drawer and place items into the drawer.

2.6.1 Loading reagents

After loading the “Eluate” drawer, the **Wizard/Load Reagents** screen appears. This screen summarizes which reagents and reagent containers need to be loaded in the “Reagents and Consumables” drawer for the current run. A maximum of 2 different reagent cartridges and 1 buffer bottle can be loaded.

Note: If the “Reagents and Consumables” drawer has already been loaded and if an inventory scan has been successfully performed, press **Next** to proceed directly to loading the “Sample” drawer (Section 2.7).

Wizard | Load Reagents

Load reagent containers as shown below

Reagent cartridge/container	Available
1 x QIA Symphony RNA Kit (192), catalog no. 931636	no
1 x QIA Symphony Virus/Bacteria Midi Kit (96), catalog no. 931055	no
Accessory trough on slot Tiptrack-12	no
Accessory trough on slot Tiptrack-5	no
Buffer bottle containing QX1	no

Bottle ID
Back
Cancel
Next
Help

QIAGEN

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User: John Doe
Profile: Default Profile 1

Wizard/Load Reagents screen.

Prepare all reagents that are listed in the table, according to the handbook of the QIA Symphony kit that you are using, and then perform the following steps:

1. Open the “Reagents and Consumables” drawer.
2. Place reagent cartridge(s) into the appropriate slot

3. If an additional bottle of buffer is required for the purification procedure, scan the bar code and then place the bottle into the slot.
4. If Accessory Troughs containing ethanol are required for the purification procedure, place the troughs in tip rack slots 5 and 12.
5. Press **Next** to continue. The **Wizard/Load Consumables** screen appears.

2.6.2 Assembling and loading reagent cartridges

The required reagent cartridges are determined by the QIASymphony SP from the protocols that were chosen by the user. If a protocol supports more than one reagent cartridge, all supported reagent cartridges are listed in the screen.

There are 2 slots for reagent cartridges in the “Reagents and Consumables” drawer. The reagent cartridges can be either from the same kit or from different kits.

Assembling reagent cartridges

1. Place the reagent cartridge holder onto a firm surface.
2. Remove the reagent cartridge from the QIASymphony Kit.
3. Place the reagent cartridge into the reagent cartridge holder.



4. Remove the foil seal from the magnetic-particle trough and replace with the trough cover.



5. Place the enzyme rack in its slot on the reagent cartridge holder. Remove the lids from the tubes and place into the appropriate slot to prevent mix up.



6. Take a piercing lid and remove it from its packaging.
7. Place the lid on top of the reagent cartridge so that the side with the opening fits against the magnetic-particle trough. The cut-outs in the piercing lid fit around the tubes of the enzyme rack when the reagent cartridge is pierced by the QIAasymphony SP.

8. Gently push the piercing lid downward until it clicks into place.



Note: Ensure that the buffer troughs fit correctly within the reagent cartridge otherwise liquid-level detection errors may occur.

The composition of the reagent cartridge is kit specific. Do not mix troughs from different kits.

Note: Avoid shaking the reagent cartridge since this may cause buffers to foam, resulting in liquid-level detection errors.

Note: Do not refill partially used reagent cartridges or exchange the reagent cartridge of a running batch as this may lead to performance or pipetting errors.

Note: Do not mix enzyme racks, buffer or magnetic-particle troughs from different reagent cartridges and/or different lot numbers.

Loading reagent cartridges

1. Vortex the magnetic-particle trough (refer to the kit handbook for detailed information) and replace in the reagent cartridge.

Note: Make sure that the magnetic-particle trough is sealed or closed with a Reuse Seal Strip before vortexing.

2. If using a new reagent cartridge, place the reagent cartridge and enzyme rack into the reagent cartridge holder and then place the piercing lid onto the reagent cartridge (see "Assembling reagent cartridges", page 26).

Note: If you forget to place the lid onto the reagent cartridge, the samples in the batch may be lost. However, the presence of the piercing lid is detected during the inventory scan, which means that the error will be detected before the run has started.

Note: If using a partially used reagent cartridge, place the reagent cartridge into the reagent cartridge holder before loading onto the instrument. Ensure that all screw-caps and covers are removed from the enzyme tubes and troughs before placing into the “Reagents and Consumables” drawer.

3. Check that buffers do not contain precipitates. If precipitates are present, refer to the handbook of the kit you are using for more information.
4. Open the “Reagents and Consumables” drawer.
5. Take the assembled reagent cartridge with the magnetic-particle trough oriented to the left and hold it using both hands.



6. Slide the reagent cartridge along the slide rail into one of the reagent cartridge slots.



The reagent cartridge will be automatically held in place by a catch on the metal plate at the back of the slot.



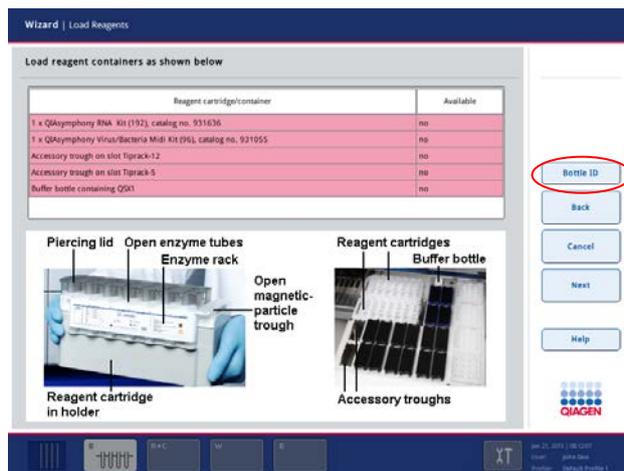
The reagent cartridge will be automatically detected during the inventory scan. For information about the inventory scan of the “Reagents and Consumables” drawer, see Section 3.3.3 of the *General Description*.

2.6.3 Loading the buffer bottle

Depending on the kit being used, an additional bottle of buffer may be provided. The bottle is prefilled with up to 60 ml of reagent. For more information about the provided reagent, refer to the kit handbook.

To load the QIASymphony SP with the buffer bottle, follow the steps below.

1. Open the “Reagents and Consumables” drawer.
2. Remove the screw-cap from the buffer bottle.
3. Press **Bottle ID** in the **Wizard/Load Reagents** screen.



4. The **Keyboard** screen appears.
5. Scan the buffer bottle bar code using the handheld bar code scanner. Alternatively, type in the bar code using the **Keyboard** screen. The bar code enables the QIASymphony SP to identify the buffer.
6. Place the bottle into the slot just in front of tip rack slots 1 and 2 in the “Reagents and Consumables” drawer.

The buffer bottle and volume of buffer will be automatically detected during the inventory scan. For detailed information about the inventory scan, refer to Section 3.3.3 of the *General Description*.

2.6.4 Loading the Accessory Trough

Up to 2 Accessory Troughs can be accommodated on the QIASymphony SP worktable in tip rack slots 5 and 12. These slots can either be used for tip racks or for Accessory Troughs.

To load the QIASymphony SP with an Accessory Trough, follow the steps below.

1. Fill the Accessory Trough with the volume of ethanol given in the handbook of the QIASymphony Kit you are using.
2. Open the “Reagents and Consumables” drawer.
3. Place the Accessory Trough into tip rack slot 5 or 12.



Note: Make sure that the Accessory Trough is properly seated in the tip rack slot otherwise an error may occur during the inventory scan.

2.6.5 Loading consumables

After loading the reagents, the **Wizard/Load Consumables** screen appears. This screen summarizes the number of 8-Rod Covers, sample prep cartridges and filter-tips that need to be loaded into the “Reagents and Consumables” drawer. Simply open the drawer and place items into the drawer.

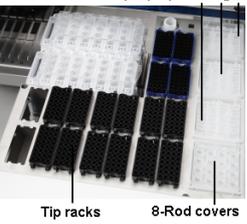
Note: If the “Reagents and Consumables” drawer has already been loaded and if an inventory scan has been successfully performed, press **Next** to proceed directly to loading the “Sample” drawer (Section 2.7).

Wizard | Load Consumables

Load consumables as shown below

Cartridge/Tips	Available	Required	Missing	Recommended
8-Rod covers	12 (1 Unit Box)	8 (1 Unit Box)	0 (0 Unit Boxes)	12 (1 Unit Box)
Sample prep cartridges	84 (3 Unit Boxes)	52 (2 Unit Boxes)	0 (0 Unit Boxes)	84 (3 Unit Boxes)
Tips 1500 µl	320 (10 Tip Racks)	352 (11 Tip Racks)	32 (1 Tip Rack)	384 (12 Tip Racks)
Tips 200 µl	192 (6 Tip Racks)	128 (4 Tip Racks)	0 (0 Tip Racks)	128 (4 Tip Racks)

Sample prep cartridges



Tip racks 8-Rod covers

Back

Cancel

Next

Help

QIAGEN

Jan 21, 2015 08:12:07
User: John Doe
Profile: Default Profile 1

Wizard/Load Consumables screen.

Note: Do not load consumables directly onto the worktable without opening the drawer.

Note: Closing the “Reagents and Consumables” results in an inventory scan of the drawer.

Note: All drawers will be locked during the inventory scan and during an instrument run. During this time, consumables cannot be loaded or unloaded.

Depending on the kit being used, different types or amounts of consumables may be required. For more information, refer to the handbook of the QIAAsymphony kit you are using.

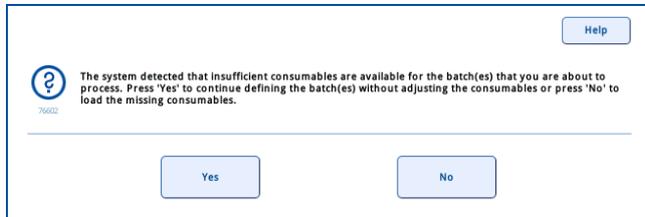
Make sure to wear gloves when loading items into the QIAAsymphony drawers.

Prepare the required consumables, as outlined in the table, and then proceed as follows:

1. Place unit boxes for 8-Rod Covers and sample prep cartridges in unit box slots.
2. Fill tip rack slots with racks of 200 µl and 1500 µl filter-tips.
3. Optional: If an additional buffer bottle is required, press **Bottle ID**. The **Keyboard** screen appears. Scan the buffer bottle using the handheld bar code scanner, or type in the bar code using the **Keyboard** screen. You can then load the buffer bottle onto the worktable.

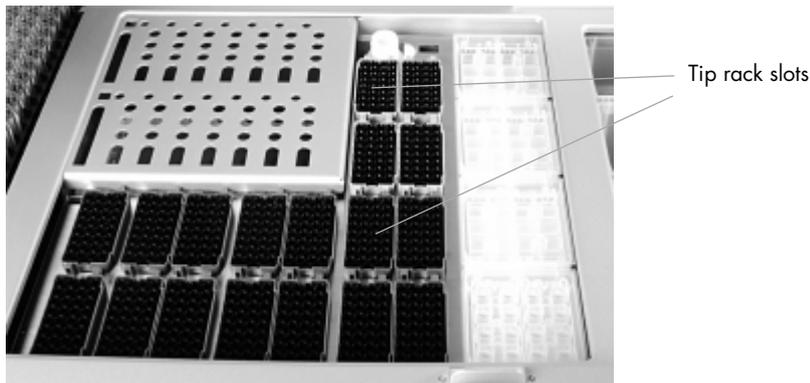
4. Close the “Reagents and Consumables” drawer. An inventory scan of the “Reagents and Consumables” drawer will start (see Section 2.6.6 for more details). It is possible to continue with the Wizard while the inventory scan is in progress.
5. Press the **Next** button in the Wizard. The **Sample Loading Summary** screen appears.

Note: If you press **Next** before all of the required consumables have been loaded onto the worktable, the following message appears.



2.6.6 Loading tip racks

There are 18 tip rack slots in the “Reagents and Consumables” drawer. Tip racks can be placed in any of the slots since rack position, tip type and number of tips are detected during the inventory scan. The number of tips required per sample varies depending on the protocol being run.



There are 18 tip rack slots on the QIAasymphony SP worktable.

To load the QIAasymphony SP with tip racks, follow the steps below.

1. Open the “Reagents and Consumables” drawer.
2. Hold the tip rack between 2 fingers by the recessed grips.
3. Gently squeeze the tip rack together and place it into a tip rack slot.

Note: To ensure detection of the tip racks during the inventory scan, make sure that the tip racks are properly seated in the tip rack slot and that none of the protrusions on the tip racks are broken.

Recommendation: Load more than the required number of filter-tips of each size so that sufficient filter-tips are available for automated error handling.

CAUTION



Damage to the instrument

Do not refill partially used tip racks. A mixture of various tip sizes in one rack will result in an error during the run.

Note: If the “Reagents and Consumables” drawer is locked it cannot be loaded or unloaded.

2.6.7 Loading unit boxes

There are 4 slots for unit boxes in the “Reagents and Consumables” drawer. Typically, more sample prep cartridges will be required than 8-Rod Covers and this needs to be taken into account when loading the QIASymphony SP with unit boxes. For more information about the numbers of sample prep cartridges and 8-Rod Covers required, refer to the handbook of the QIASymphony kit you are using.

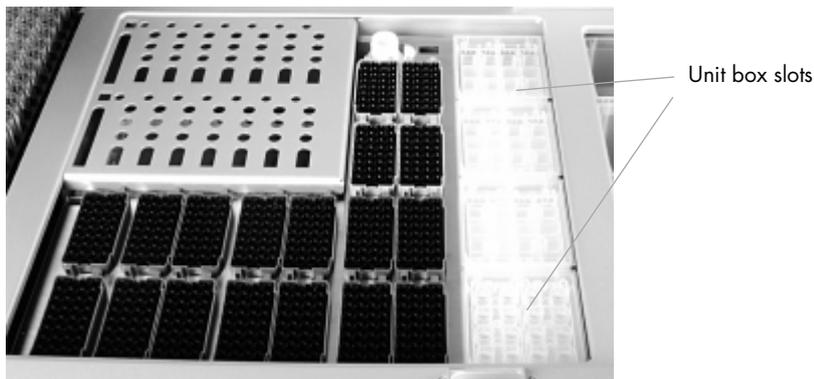
To load the QIASymphony SP with unit boxes, follow the steps below.

1. Remove the lid from the unit box and keep for later use. Do not throw the lid away.
2. Open the “Reagents and Consumables” drawer.
3. Place the unit box into one of the unit box slots in the drawer. For ease of use and process safety, the unit box fits only in the correct orientation.

Each unit box slot in the “Reagents and Consumables” drawer can be used either for a unit box filled with sample prep cartridges or a unit box filled with 8-Rod Covers. Partially used unit boxes can be loaded into the drawer since the number of sample prep cartridges or 8-Rod Covers they contain will be detected during the inventory scan.

Note: Do not refill partially used unit boxes. The number of sample prep cartridges or 8-Rod Covers is detected during the inventory scan.

Lids can be used to reclose partially used unit boxes. Do not throw empty unit boxes away. Empty unit boxes can be used in the “Waste” drawer for collection of used sample prep cartridges and 8-Rod Covers during the purification procedure.



The "Reagents and Consumables" drawer can accommodate up to 4 unit boxes.

Important: Make sure that there is at least one empty unit box in slot 4 (slot closest to you).

2.6.8 Inventory scan of "Reagents and Consumables" drawer

The inventory scan of the "Reagents and Consumables" drawer is divided into 2 main parts, each with several subparts. For more information, refer to Section 3.3.3 of the *General Description*.

Laser scan

1. Reagent cartridge slots are scanned.

Note: Do not mix enzyme racks, buffer or magnetic-particle troughs from different reagent cartridges and/or different lot numbers.

2. Tip rack slots are scanned.
3. Unit box slots are scanned.
4. Buffer bottle slot is scanned.

Liquid-level scan of detected reagents

This scan is performed only if the liquid level of the detected reagents is not known (e.g., for a partially used reagent cartridge).

1. Liquid-level scan of detected reagents.

Note: The inventory scan will only detect the liquid level of open and recognized reagents.

2. Liquid-level check of the buffer bottle (if loaded).
3. Liquid-level check of the Accessory Trough (if loaded).

Note: These checks use the 1500 µl and 200 µl filter-tips. If insufficient tips are available or if one of the tip types is missing, the inventory scan will be aborted and queued sample batches cannot be started.

In case of a partial inventory scan, only the selected parts of the described steps are performed.

2.7 Loading the “Sample” drawer

After loading reagents and consumables, the **Wizard/Sample Loading Summary** screen appears. This screen summarizes the number of samples and internal controls that are required for each sample rack.

Ensure that all listed samples and internal controls have been prepared and are available for loading, and then press **Next** to continue.

Wizard | Sample Loading Summary

Loading consumables finished. Click Next to proceed.

Sample rack slot/plate area	Assay control sets	Samples	Internal controls
1	RNA CT 400 V1	24	none
2	RNA CT 400 V1	8	none
3	Virus 1000, Virus 1000 IntCh2	24	Internal Control 1, Internal Control 2
4	Virus 1000 IntCh2	8	Internal Control 2

Buttons: Back, Cancel, Next, Help

QIAGEN logo

Bottom bar: S, RAC, W, E, XT, Jan 21, 2015 | 08:15:07, User: John Doe, Profile: Default Profile 1

Wizard/Sample Loading Summary screen.

The **Wizard/Select Sample Carrier/Select the sample carrier type** screen appears. In this screen, either select **Use tube carrier** to load samples using the tube carrier, or select **Use plate carrier** to load samples using the plate carrier.

Note: There are 2 situations in which the **Wizard/Select Sample Carrier/Select the sample carrier type** screen will not appear:

- If using one or more Assay Control Set that requires internal control, it is not possible to use the plate carrier. In this case, samples must be loaded using the tube carrier and the **Wizard/Load Sample Tubes** screen (page 37) appears automatically.
- If a run is already in progress, it is only possible to load tube carriers. In this case, the **Wizard/Load Sample Tubes** screen (page 37) appears automatically.



Wizard/Select Sample Carrier/Select the sample carrier type screen.

After loading the samples, the system allows the user to correct bar code reading errors, change labware, assign Assay Control Sets and define the elution slot and volume.

For some software configurations of the QIAAsymphony SP, only bar code labeled sample tubes or plates can be used. If other tubes or plates are used, a batch or run cannot be defined.

It is also possible to load and queue additional samples when a run is already in progress. "Continuous loading" is only possible when using tube carriers. In this mode, you can only assign Assay Control Sets that are compatible with the currently loaded reagent cartridge. Different internal controls can be used.

2.7.1 Loading samples using a tube carrier

1. Select **Use tube carrier** in the **Wizard/Select Sample Carrier/Select the sample carrier type** screen.

Note: The **Wizard/Select Sample Carrier/Select the sample carrier type** screen is skipped if an internal control is required, or if a run is already in progress. In these cases, the **Wizard/Load Sample Tubes** screen (step 2) appears instead because **Use plate carrier** is not an option.

2. The **Wizard/Load Sample Tubes** screen appears. This screen indicates which samples should be loaded into which "Sample" slots.



Wizard/Load Sample Tubes screen.

- Open the “Sample” drawer by pulling the door toward you. Five slots are available: The first 4 slots can accommodate tube carriers containing sample tubes; the fifth slot accommodates a tube carrier containing internal control.

Note: Only a tube carrier containing internal control can be loaded into “Slot A”. Tube carriers containing samples must be loaded into “Slot 1”, “Slot 2”, “Slot 3”, or “Slot 4”.

Each slot is marked with a stop line. The status of each slot is shown by LEDs located behind the stop line. The LEDs may be illuminated in green, orange, or red.

- Green - Slot is free and ready for loading
- Orange - Tube carrier is loaded
- Red - Slot is currently locked

- Place the tubes into the appropriate insert and make sure that all bar codes are oriented to the left so that they can be read by the bar code reader.

Note: If you need to load two samples with the same bar code/ID in the same tube carrier, do not place them side by side. Otherwise an error will occur.

Note: If you are using sample tubes that are not labeled with bar codes and that are in different inserts, use either one insert type per tube carrier or leave at least one position empty between different types of insert.

Note: If you are using sample tubes that are not labeled with bar codes and the QIASymphony SP has a configuration other than configuration 3, tubes containing smaller volumes of liquid or clear liquids may not be detected. In this case, use a blank bar code label to enable detection of the sample tube.

Note: To ensure correct liquid level detection, push the tubes down to the bottom of the tube carrier or insert, if inserts are used.

5. Gently slide the tube carrier into a free slot.
6. Slide the tube carrier up to the stop line, and wait until the bar code reader has moved forward.



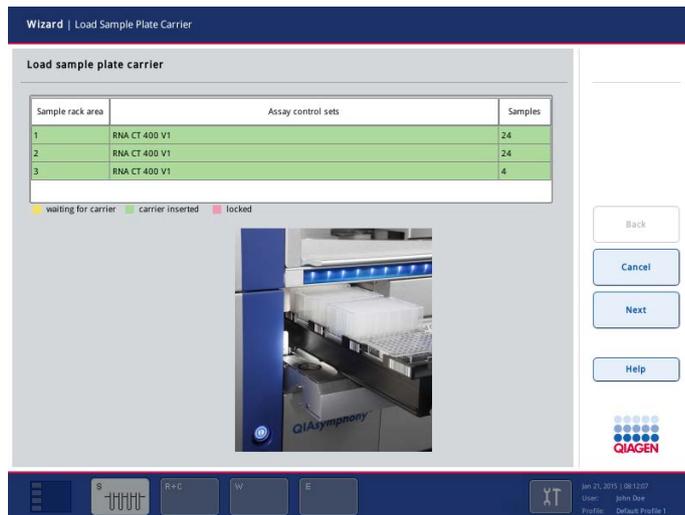
7. As soon as the bar code reader is in position, the slot unlocks and the green LED starts to flash. Slide the carrier into the QIASymphony SP.
Note: Make sure to slide the carrier smoothly into the slot otherwise an error may occur.
The bar code reader reads bar codes on the carrier, inserts and corresponding tubes. On successful loading, the LED changes from green to orange.
8. When the bar code reader has returned to the home position, close the "Sample" drawer.
9. Press the **Next** button, and proceed to Section 2.11.1, "Samples loaded in the tube carrier".

2.7.2 Loading samples using a plate carrier

The plate carrier has 4 slots that can accommodate up to 4 sample racks. Plates can be in 24- and 96-well format. Different plate formats can be used within the same carrier at the same time. The plate carrier can also be loaded with tubes in an adapter.

1. Select **Use plate carrier** in the **Wizard/Select Sample Carrier/Select the sample carrier type** screen.

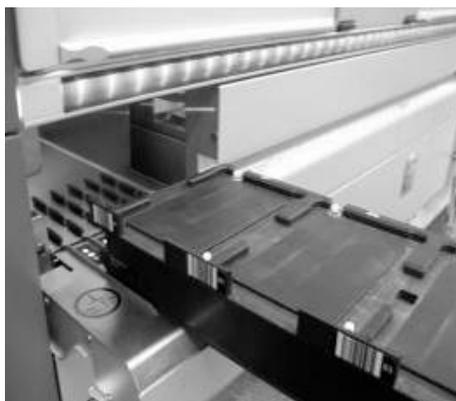
The **Wizard/Load Sample Plate Carrier** screen appears. This screen indicates which samples should be loaded into which sample rack area.



Wizard/Load Sample Plate Carrier screen.

2. Load plates into the carrier with well A1 oriented to the upper left of the slot. The plates are held in place by white pins located to the right and bottom of each slot.
3. Remove lids from sample plates.
4. To enable bar code reading, make sure to place bar code labels sideways to the left on each plate.
5. Open the "Sample" drawer by pulling the door toward you.
6. With position "1" facing forward, gently slide the plate carrier into the drawer.

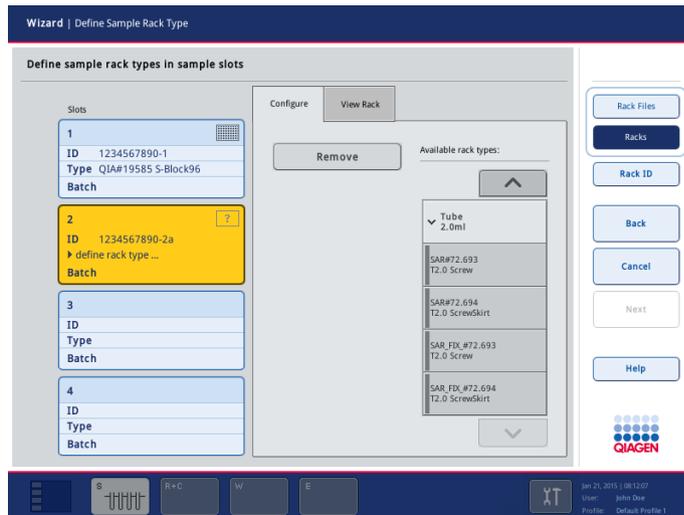
Note: Make sure to slide the carrier smoothly into the slot otherwise an error may occur.
7. Slide the plate carrier up to the stop line, and wait until the bar code reader has moved forward.



8. As soon as the bar code reader is in position, the slot unlocks and the green LED starts to flash. Slide the carrier into the QIAAsymphony SP.

The bar code reader reads bar codes on the carrier and on the sample racks. On successful loading, the LEDs change from green to orange.

The **Wizard/Define Sample Rack Type** screen appears.



Wizard/Define Sample Rack Type screen.

Bar codes at the left side of the sample rack can be read automatically by the bar code reader of the “Sample” drawer. See Appendix A of the *General Description* for details about compatible bar code types.

Note: If the instrument detects a sample rack by reading a bar code, the associated sample rack type must be defined. If a rack file exists, the rack type is taken from the rack file, otherwise it must be selected. Sample bar codes that cannot be detected automatically must be manually entered.

Note: A rack file must contain at least one position with content, otherwise it is ignored (treated as a non-existing rack file). For example, if four 24-well plates are loaded, with 1 plate without a bar code label, the plate without the bar code label will not be automatically detected by the QIA Symphony SP.

If a rack file is not assigned to a sample slot, you can define the sample rack type and rack ID by pressing **Rack Files** and selecting a rack file for the sample slot.

Note: The software only displays rack files that can be used on the selected slot. If you cannot find a particular rack file that the rack type defined in the rack file can be processed on the selected slot.

Note: It is not possible to use rack files for eluate or assay racks on a QIA Symphony SP sample slot.

Manually assigning a rack ID

1. Select the appropriate slot by pressing the button (1–4). The selected sample slot becomes active. The sample rack can be assigned using the displayed list of available sample racks.
2. If the sample bar code was not detected automatically, enter the sample rack ID manually by pressing the button **Rack ID**.
3. Select the category that contains the required type of sample rack in the **Available rack types** list. The list will display all available sample rack types in the selected category. Use the up and down arrows to scroll through the list.

Note: If a rack file already exists for the rack, a message appears. Press **OK** to use the rack type defined in the rack file.

4. Select the sample rack type in the **Available rack types** list. Use the up and down arrows to scroll through the list.
5. To assign a rack ID to the selected sample slot, press **Rack ID**. The **Keyboard** screen appears. Enter a rack ID and press **OK** to continue.
6. Press **Next** to close the **Wizard/Define Sample Rack Type** screen. Proceed to Section 2.11.2, “Samples loaded in the plate carrier”.

2.8 Resolving errors of sample/internal control tubes or sample IDs

2.8.1 Correction of duplicate bar codes

If the software configuration does not allow duplicate bar codes in one run, position buttons of duplicate bar codes are displayed in yellow in the **Wizard/Batch X/Define Samples** screen. This screen enables correction of bar codes.



Wizard/Batch X/Define Samples screen.

Duplicate bar codes can be corrected using one of two methods. The method to be used depends on the software configuration of your QIA Symphony SP.

Method 1

1. Remove the corresponding tube carrier.
2. Remove one of the tubes with the duplicate bar code.
3. Place a new sample tube into the tube carrier.
4. Insert the tube carrier again.

Note: Only re-insert the tube carrier when this screen is displayed.

Method 2

1. Press the corresponding position button of the sample ID to be modified. The **Keyboard** screen appears.
2. Modify the bar code. Bar codes can only be modified if the software configuration of your QIA Symphony SP does not allow samples without bar codes to be used.

If duplicate bar codes are no longer detected, the **Next** button becomes active.

3. Press the **Next** button to continue with the sample definition workflow.

2.8.2 Generating a virtual bar code after a bar code reading error

If your QIA Symphony SP is configured in such a way that virtual bar codes are generated if a bar code reading error occurs, you do not need to take further action. For all sample positions where a tube was detected but no bar code was read, the QIA Symphony SP creates a unique, virtual bar code. The nomenclature of the bar code is “_PositionNumber on Tube Carrier_Unique Batch ID”.



Press the **Next** button to continue with the sample definition workflow.

2.8.3 No virtual bar code generated after bar code reading error

If your QIASymphony SP is configured in such a way that virtual bar codes are not generated if a bar code reading error occurs, you have to correct the unread sample IDs. If the sample bar code could not be read, sample position buttons are displayed in yellow and a bar code symbol is shown.



Wizard/Batch X/Define Samples screen.

To correct the error, follow the steps below.

1. Remove the tube carrier containing the tube with the bar code that cannot be read.
2. Check the bar code label and, if necessary, adjust the position of the tube in the carrier; the bar code label must be oriented to the left.
3. Re-insert the tube carrier into the same tube carrier slot.
The read bar codes will be displayed.
4. If the bar code reading error persists, press the position button of the position with the unidentified ID.
5. The **Keyboard** screen appears. Scan the bar code using the handheld scanner, or enter the bar code manually.
6. If the reading error is resolved, press the **Next** button to continue.

Note: Where information has been entered manually, a hand symbol appears in the position button.

Manually entered information cannot be overwritten by automatic reading of the bar code afterwards.

2.8.4 Sample tube/IC tube insert reading errors

If an error occurs during bar code reading of a tube insert, the position button becomes yellow. Instead of displaying a sample tube type, a bar code symbol is shown. If a tube insert reading error occurs, the type of tube insert must be manually entered.



Wizard/Batch X/Define Samples screen.

To correct the error, follow the steps below.

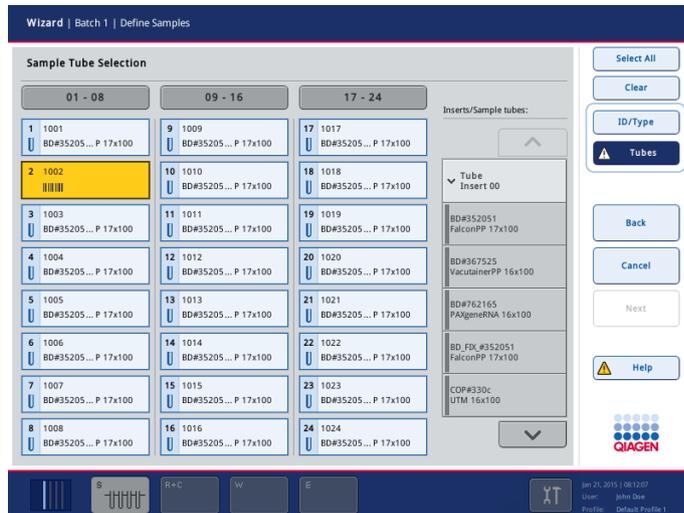
1. Remove the tube carrier containing the tube with the bar code that cannot be read.
2. Reload the tube carrier into the same tube carrier slot.

The bar codes that were read will be displayed.

3. If the bar code reading error persists, press the position button of the position with the unidentified ID.



- Select the tube insert category from the **Inserts/Sample tubes** list. Use the up and down arrows to scroll through the list. All related sample tube/IC tube types are displayed.



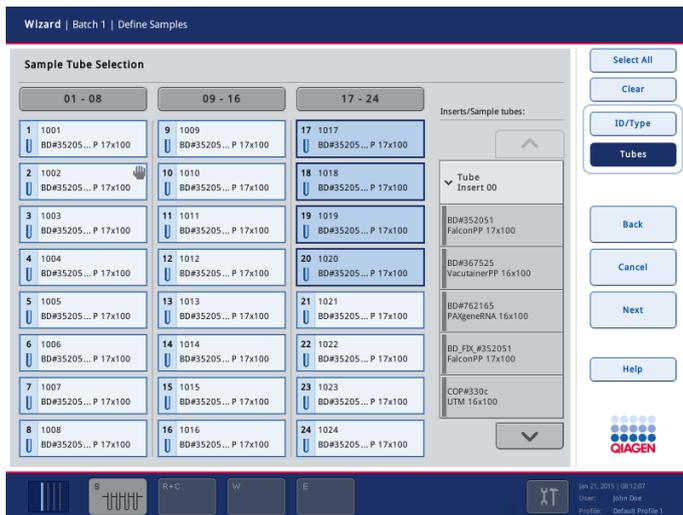
- Select the sample tube/IC tube type. If all reading errors have been resolved, the **Next** button becomes active.
- Press the **Next** button to continue.

2.8.5 Overwriting the default sample tube/IC tube type

The tube carrier inserts used with the tube carrier can accommodate more than one type of tube (e.g., the 16 mm insert can hold a PAXgene® Blood RNA Tube or a 14 ml Falcon® Tube).

There is a default tube type for each insert which can be configured by the “Supervisor” (see Section 6.1.3 of the *General Description*). After reading the bar codes, the QIASymphony SP automatically assigns the default tube type to each position.

If you are using a tube other than the default, the tube type must be selected in the touchscreen and changed. The tube type must be changed for each position that holds a tube other than the configured default tube type.



1. Select a position that contains a tube that is not the default tube for the insert used.
2. A list of inserts and tube types is displayed in the **Inserts/Sample tubes** list. Use the up and down arrows to scroll through the list.
3. Select the type of sample tube loaded.
4. Repeat steps 1–3 for all positions that contain a tube that is not the default tube for the insert used.
5. When all information has been entered, press the **Next** button to continue.

Note: Since the QIASymphony SP cannot detect which kind of tube is in an insert, be sure to enter information for all positions in which a tube other than the configured default tube is used.

2.9 Use of virtual bar codes if tubes are not labeled with bar codes

If your software is configured in such a way that virtual bar codes are generated and assigned to sample tubes that are not bar code labeled, you do not need to take further action.



Sample tubes without bar code labels in positions 1–16.

The QIASymphony SP generates a unique, virtual bar code. The nomenclature of the bar code is:

“_Position number_Unique batch ID (e.g., _01_1000031)”.

Positions that are not included in the run can be deleted using the **Clear** button.

2.10 Configuring the sample type

Note: By default, the sample type is “Sample”.

To change a sample to a positive extraction control (EC+) or negative extraction control (EC-), and to ensure correct processing on the QIASymphony AS, proceed as follows:

1. Press **ID/Type** in the **Wizard/Batch X/Define Samples** screen (“ID/Type” mode).
2. Select the samples for which the sample type shall be changed by pressing on the corresponding buttons.
3. Press **EC+** or **EC-** to change the sample type from “Sample” to positive extraction control (EC+) or negative extraction control (EC-).

Note: The sample types are saved in the rack file for the corresponding elution rack. It is not possible to change the sample types later.

2.11 Defining a batch/run (queuing)

2.11.1 Samples loaded in the tube carrier

Assigning Assay Control Sets to a sample batch without work list(s)

To assign samples to a batch without work list(s), follow the steps below.

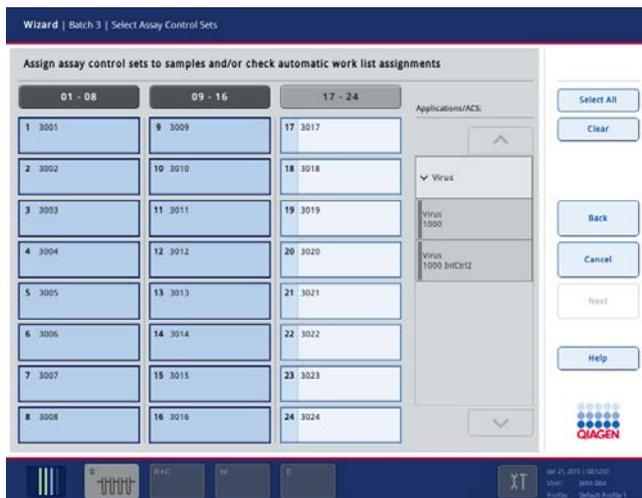
The **Wizard/Batch X/Define Samples** screen appears.



1. If all sample tubes have been correctly identified and if there are no unidentified samples or duplicate entries (depends on the software configuration of the QIAasympy SP), press the **Next** button to continue with the batch definition process.

Note: If a sample tube or internal control tube error occurs, see “Resolving errors of sample/internal control tubes or sample IDs”, Section 2.8.

The **Wizard/Batch X/Select Assay Control Sets** screen appears.

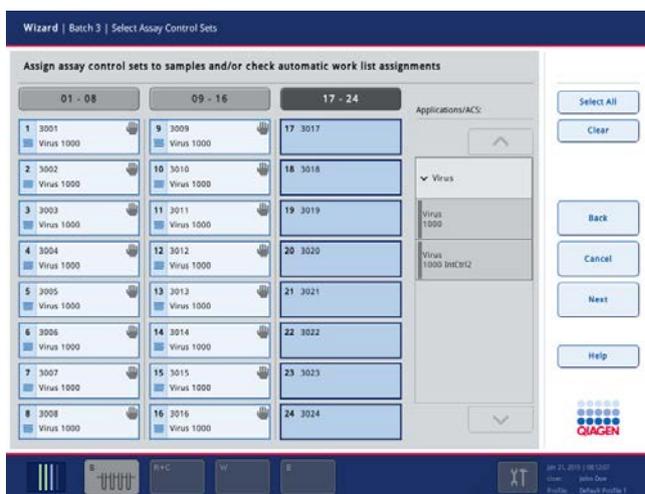


- To process samples that are not associated with a work list, Assay Control Sets must be assigned. To do this, select the samples that should be processed with a particular Assay Control Set by pressing the position buttons. Then select the application in the **Applications/ACS** list that the Assay Control Set appears in. Use the up and down arrows to scroll through the list.

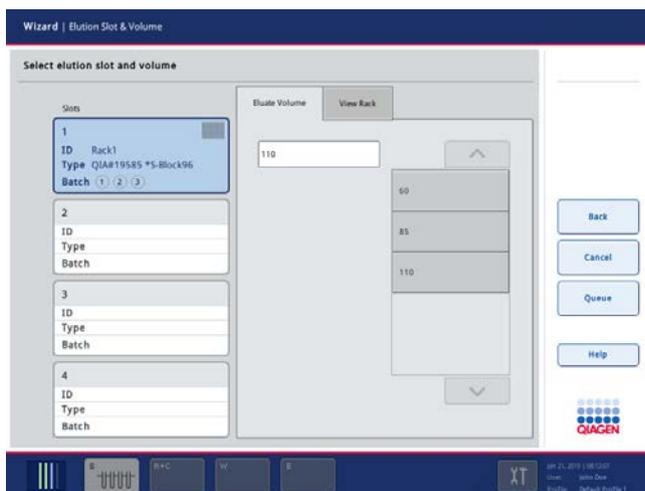
The list shows all available Assay Control Sets for the selected application.

- Select the Assay Control Set that should be used with the selected samples.

As soon as the first Assay Control Set has been selected, only Assay Control Sets that can be run with that protocol are displayed.



- Repeat steps 2–3 to assign Assay Control Sets to the other samples.
Note: Only one protocol can be run within a batch of 24 samples.
- Press the **Next** button to continue with the batch definition workflow.
The **Wizard/Elution Slot & Volume** screen is displayed.



6. Select the elution slot for the batch to be defined by pressing the corresponding slot button.
7. To overwrite the default elution volume, select the required elution volume from the list by pressing the appropriate button. Use the up and down arrows to scroll through the list of available elution volumes.
8. Press the **Queue** or **Finish** button to finish the batch definition workflow and close the Wizard. If additional batches need to be defined, the Wizard continues with configuration of the next batch.

Assigning Assay Control Sets to a sample batch with work list(s)

To assign samples to a batch with work list(s), follow the steps below.

The **Wizard/Batch X/ Define Samples** screen appears (see Section 2.8.4).



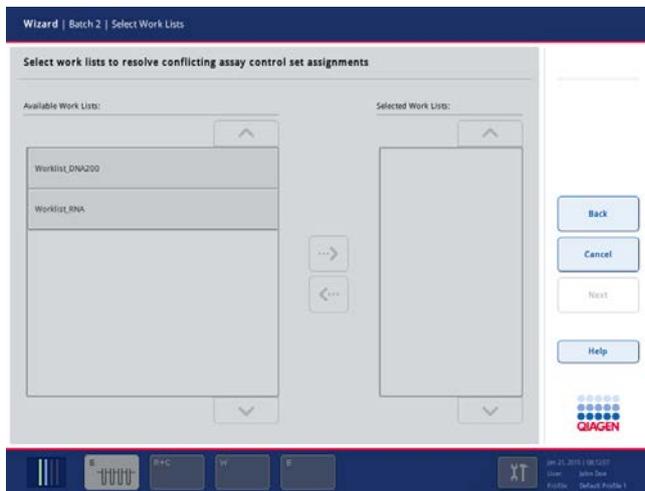
1. If all sample tubes have been correctly identified and if there are no unidentified samples or duplicate entries (depends on the software configuration of the QIAAsymphony SP), press the **Next** button to continue with the batch definition process.

Note: If a sample tube or internal control tube error occurs, see “Resolving errors of sample/internal control tubes or sample IDs”, Section 2.8.

2. The QIAAsymphony SP checks whether there are any work list assignments for the loaded samples of the batch being defined. If more than one work list is found for the batch and if the work lists are incompatible (e.g., the elution volumes are different), the following warning message appears: “The displayed work lists cannot be used for defining this batch.” Press **OK** to acknowledge the warning message.

If incompatible work lists are found for a batch, the **Wizard/Batch X/Select Work Lists** screen appears.

Note: If the sequence recognized in the sample carrier is not the same as the sequence of samples in the work list, a warning might be appearing (see parameter “Warn, if sample sequence differs from work list entry sequence?” in Section 6.2.2 of the *General Description*).



Wizard/Batch X/Select Work Lists screen.

3. Select the work lists that you would like to use for defining the batch. To select a work list, press its button in the list of **Available Work Lists**, then press the arrow button in the right direction. The work list will then move to the **Selected Work Lists** panel.

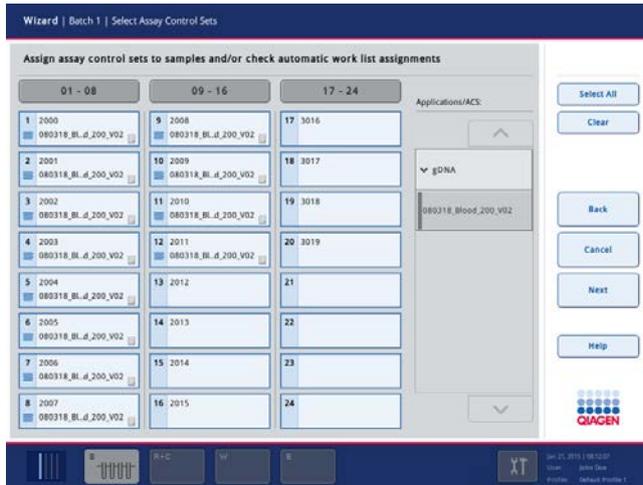
Note: When a work list has been selected, only work lists that are compatible with the selected work list are displayed in the list of available work lists.

4. Repeat step 3 to select additional work lists.

Note: To deselect a work list, select it in the **Selected Work Lists** field and then press the arrow button in the left direction. The work list will then move to the **Available Work Lists** panel.

5. Press **Next** to continue.

The **Wizard/Batch X/Select Assay Control Sets** screen appears.



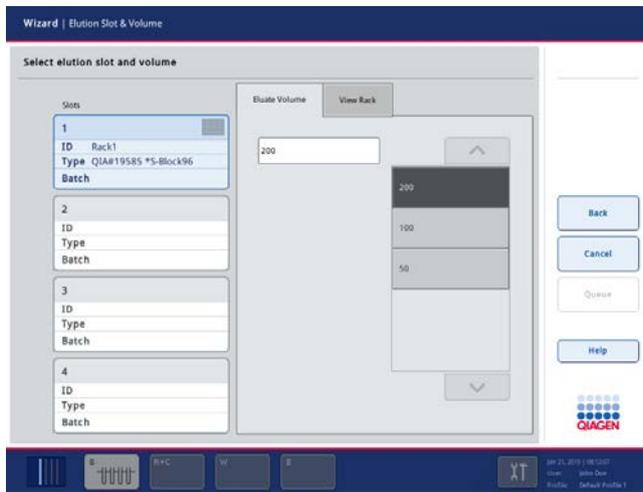
Wizard/Batch X/Select Assay Control Sets screen.

For samples associated with a work list, the Assay Control Sets defined in the work list are automatically assigned. These samples display the indicator  in the lower-right corner. To process any samples that are not associated with a work list, Assay Control Sets must be assigned, see steps 2–3 of “Assigning Assay Control Sets to a sample batch without work list(s)”, page 49.

Note: Depending on the configuration of the QIAasymphony SP, automatic assignments made by the work list can be changed. If you assign a different Assay Control Set to a sample, other than the one assigned by the work list, a warning message appears. Press **Yes** to override the work list assignment and assign the manually selected Assay Control Set. Press **No** to keep the automatic assignment.

6. Press the **Next** button to continue with the batch definition workflow.

The **Wizard/Elution Slot & Volume** screen is displayed.



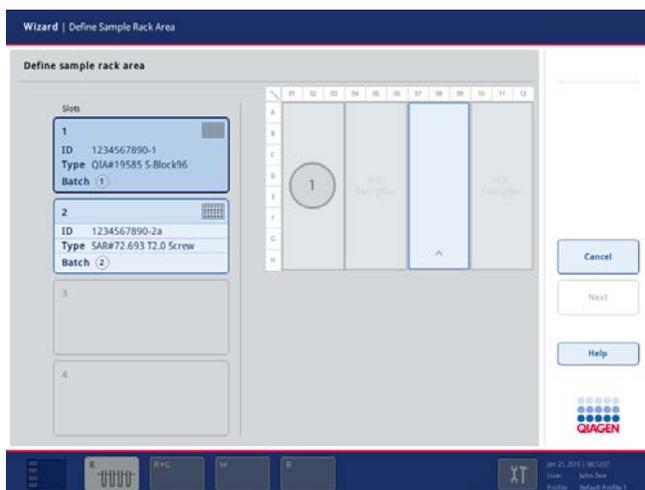
7. Select the elution slot for the batch to be defined by pressing the corresponding slot button.
8. To overwrite the default elution volume, select the required elution volume from the list by pressing the appropriate button. Use the up and down arrows to scroll through the list of available elution volumes.
9. Press the **Queue** or **Finish** button to finish the batch definition workflow and close the Wizard. If additional batches need to be defined, the Wizard continues with configuration of the next batch.

2.11.2 Samples loaded in the plate carrier

Assigning Assay Control Sets to a sample batch without work list(s)

To assign samples to a batch without work list(s), follow the steps below.

The **Wizard/Define Sample Rack Area** screen appears.



Wizard/Define Sample Rack Area screen.

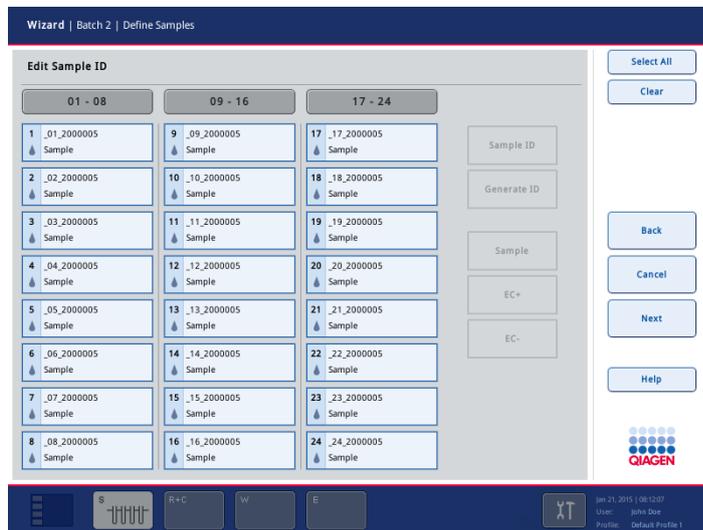
1. Select the sample slot that contains the samples for the first batch.
2. If the selected sample slot contains a sample rack with 24 positions, press the **Next** button to continue.
3. If the selected sample slot contains a sample plate with 96 positions, select the area of the plate that contains the samples to be processed. For a 96-well plate, select a quarter of the plate. Press the **Next** button to continue.

The example above shows a 96-well plate. Samples are provided in a rack placed on sample "Slot 1".

Note: If samples have already been defined for another batch, the used quarter of the plate cannot be selected again. It appears gray and the corresponding batch number (i.e., 1–99) is displayed.

Note: If a rack file is used, only the quarters that contain samples can be selected. The example in the screenshot on the previous page shows a 96-well plate. Samples are provided in a rack placed on sample slot 1. Quarters 1 and 3 contain samples and can therefore be selected. Quarters 2 and 4 do not contain samples and thus cannot be selected.

The **Wizard/Batch X/Define Samples** screen appears.



- To change sample IDs assigned by the QIAAsymphony SP, select the position of the sample that requires a new sample ID and press **Sample ID**. The **Keyboard** screen appears.
- Enter the new sample ID, and press **OK**. The modified sample ID will then be displayed in the sample position button.

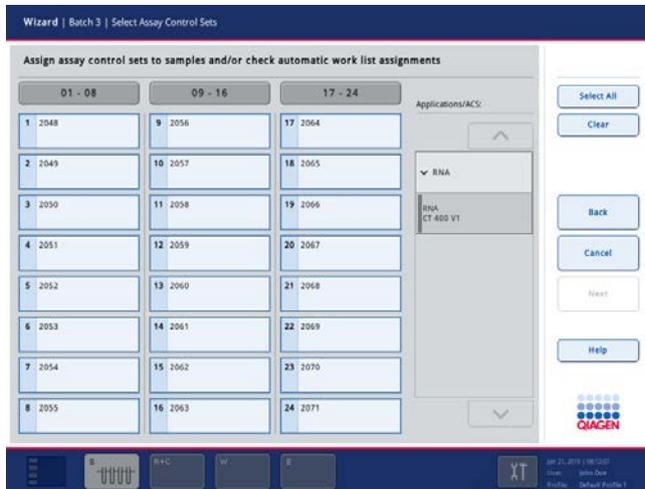
Note: The sample type is saved in the rack file and this determines the processing on the QIAAsymphony AS. It is possible to change the sample type from "Sample" to positive extraction control (EC+) or negative extraction control (EC-). For more information about how to do this, see Section 2.10.

Note: The sample type cannot be modified in the QIAAsymphony AS user interface, therefore ensure that the correct sample type is defined in the rack file.

Note: It is not possible to modify sample IDs and sample types defined by a rack file.

- If the sample IDs and sample types are correct, press **Next** to continue.

The **Wizard/Batch X/Select Assay Control Sets** screen appears.



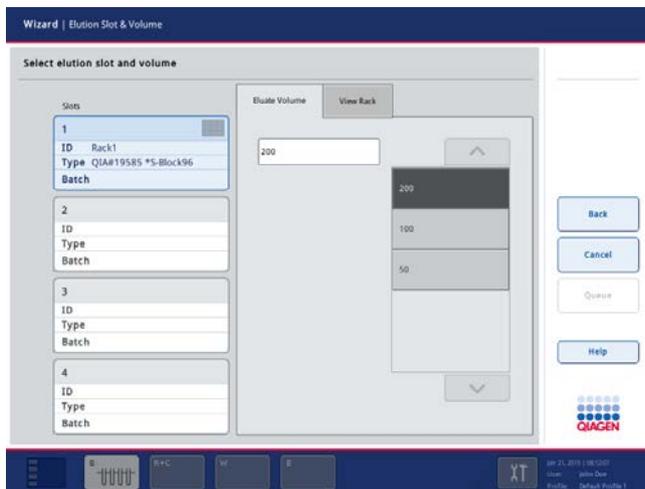
7. Select the sample positions to which the same Assay Control Set should be assigned.
8. Select an application from the **Applications/ACS** list. Use the up and down arrows to scroll through the list.

All available Assay Control Sets for use with this application are listed.

9. Select the Assay Control Set to assign it to the preselected sample positions.

Note: If the same Assay Control Set should be assigned to all samples in the batch, press **Select All** and then select the Assay Control Set from the **Applications/ACS** list. Use the up and down arrows to scroll through the list.
10. Repeat steps 7–9 until Assay Control Sets have been assigned to all samples.
11. Press the **Next** button to continue.

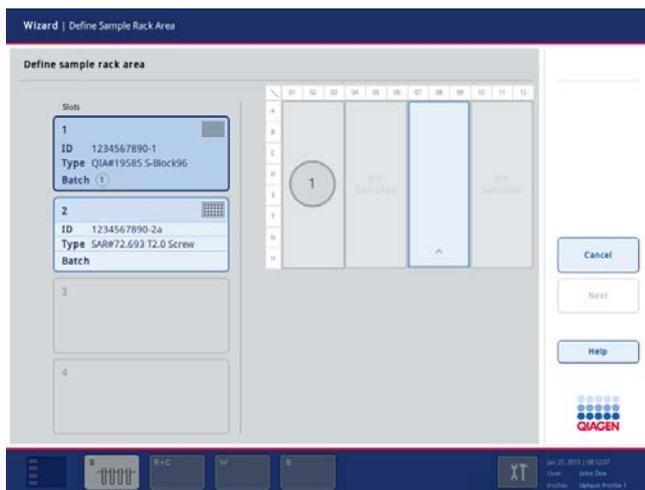
The **Wizard/Elution Slot & Volume** screen appears.



12. Select the elution slot that eluates should be transferred to.
If an elution rack has already been assigned to the slot, the corresponding information is displayed next to the slot button.
13. To use an elution volume other than the default elution volume defined in the Assay Control Set, select the elution volume required from the list. Use the up and down arrows to scroll through the list.
14. Press the **Queue** or **Finish** button to finish the batch definition workflow and close the Wizard.
If additional batches need to be defined, the Wizard continues with configuration of the next batch.

Assigning Assay Control Sets to a sample batch with work list(s)

The **Wizard/Define Sample Rack Area** screen appears.



1. Select the sample slot that contains the samples for the first batch.
2. If the selected sample slot contains a sample rack with 24 positions, press the **Next** button to continue.
3. If the selected sample slot contains a sample plate with 96 positions, select the area of the plate that contains the samples to be processed. For a 96-well plate, select a quarter of the plate. Press the **Next** button to continue.

Note: If samples have already been defined for another batch, the used quarter of the plate cannot be selected again. It appears gray and the corresponding batch number (i.e., 1–99) is displayed. The example above shows a 96-well plate. Samples are provided in a rack placed on sample “Slot 1”. Quarter 1 is already assigned to batch 1 and Quarter 3 is currently selected.

Note: If a rack file is used, only the quarters that contain samples can be selected. The example above shows a 96-well plate. Samples are provided in a rack placed on sample slot 1. Quarters 1 and 3 contain samples and can therefore be selected. Quarters 2 and 4 do not contain samples and thus cannot be selected.

The **Wizard/Batch X/Define Samples** screen appears.

- To change sample IDs assigned by the QIAAsymphony SP, select the position of the sample that requires a new sample ID and press **Sample ID**. The **Keyboard** screen appears.
- Enter the new sample ID, and press **OK**. The modified sample ID will then be displayed in the sample position button.

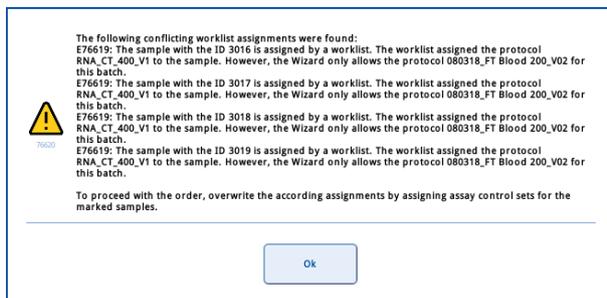
Note: The sample type is saved in the rack file and this determines the processing on the QIAAsymphony AS. It is possible to change the sample type from "Sample" to positive extraction control (EC+) or negative extraction control (EC-). For more information about how to do this, see Section 2.10.

Note: The sample type cannot be modified in the QIAAsymphony AS user interface, therefore ensure that the correct sample type is defined in the rack file.

Note: It is not possible to modify sample IDs and sample types defined by a rack file.

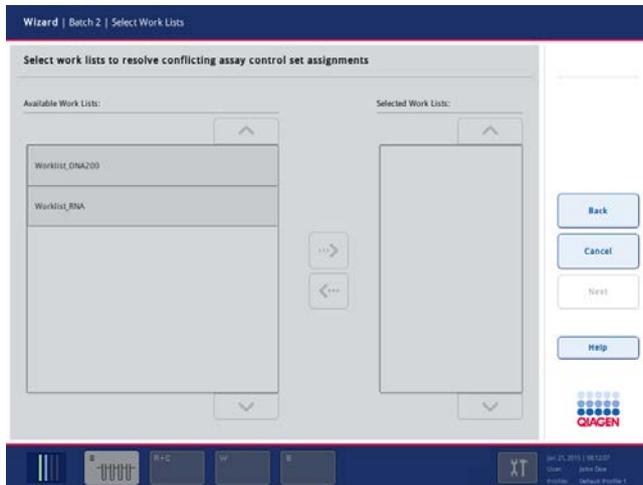
- If the sample IDs and sample types are correct, press **Next** to continue.

The QIAAsymphony SP checks whether there are any work list assignments for the loaded samples of the batch being defined. If there are work lists with contradicting entries, a warning message appears (example shown below).



- In this case, the displayed work lists cannot be used for defining this batch. Press **OK** to acknowledge the warning message.

If work lists with contradicting entries are found, the **Wizard/Batch X/Work List Selection** screen appears.



8. Select the work lists for batch definition. To select a work list, select it in the **Available Work Lists** panel and then press the arrow button in the right direction.

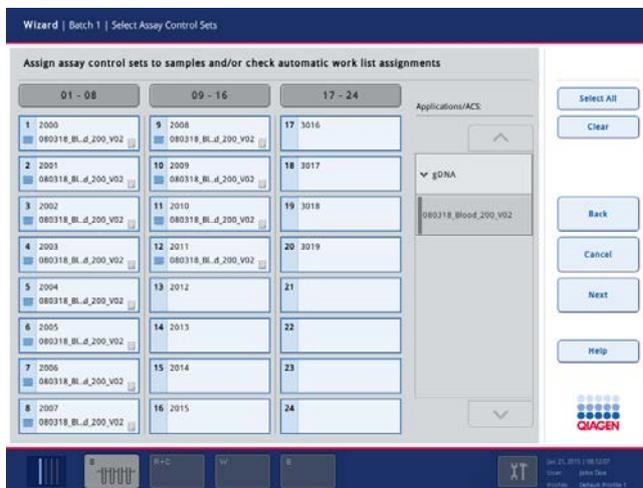
Note: When a work list has been selected, only work lists that are compatible with the selected work list are selected in the **Available Work Lists** panel.

9. Repeat step 8 to select further work lists.

Note: To deselect a work list, select it in the “Selected Work List” panel and then press the arrow button in the left direction.

10. Press the **Next** button.

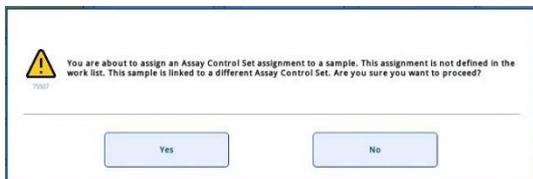
The **Wizard/Batch X/Select Assay Control Sets** screen appears.



For samples associated with a work list, the Assay Control Sets defined in the work list are automatically assigned. These samples display the indicator  in the lower-right corner.

To process any samples that are not associated with a work list, Assay Control Sets must be assigned; see steps 7–9 of “Assigning Assay Control Sets to a sample batch without work list(s)”, page 54.

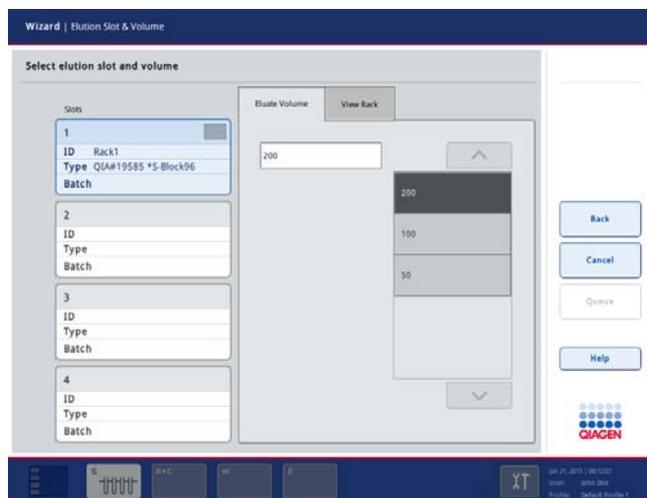
Note: Depending on the configuration of the QIAsymphony SP, automatic assignments made by the work list can be changed. If you assign a different Assay Control Set to a sample, other than the one assigned by the work list, the following warning message appears.



Press **Yes** to override the work list assignment and assign the manually selected Assay Control Set. Press **No** to keep the automatic assignment.

11. Press the **Next** button to continue.

The **Wizard/Elution Slot & Volume** screen appears.



12. Select the elution slot that eluates should be transferred to.

If an elution rack has already been assigned to the slot, the corresponding information is displayed next to the slot button.

13. To use an elution volume other than the default elution volume defined in the Assay Control Set, select the elution volume required from the list. Use the up and down arrows to scroll through the list.

14. Press the **Queue** or **Finish** button to finish the batch definition workflow and close the Wizard.

If additional batches need to be defined, the Wizard continues with configuration of the next batch.

2.12 Defining a batch/run using “Fast Setup”

If loaded samples should be processed using the same Assay Control Set (i.e., protocol and internal control), a fast setup procedure can be used. Follow the steps below.

The “Fast Setup” function is not available while a run is being performed by using a plate carrier. For more information, see “**Sample Preparation** tab – **Sample Preparation/Overview** screen,” Section 3.8.2.

Note: “Fast Setup” is not part of the Wizard. Loading of drawers must be performed either before or after batch definition.

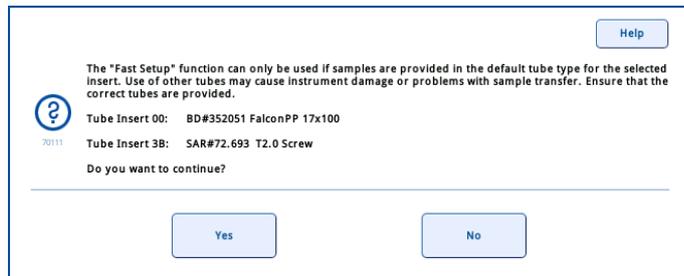
Before starting the “Fast Setup” procedure, ensure that samples are loaded in the “Sample” drawer.

2.12.1 “Fast Setup” with samples loaded in tube carrier

Important: Only use the default tubes for the corresponding insert. For more information about compatible sample tubes and plates, see www.qiagen.com/goto/QIASymphony.

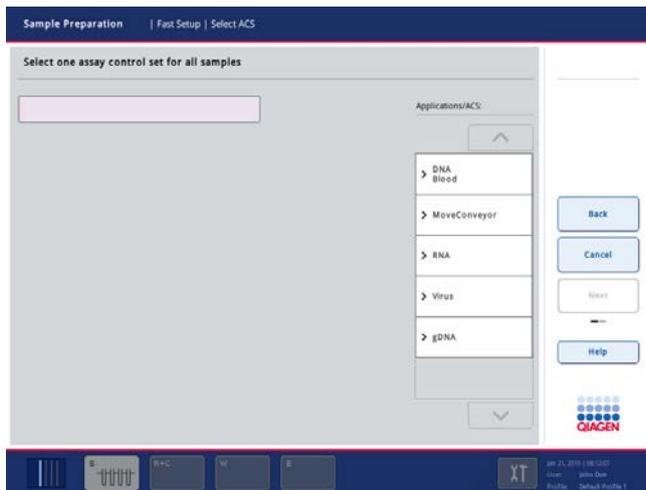
1. Press the **Fast Setup** button.

A message appears.



2. Check that the default tubes for the carrier have been used then press **Yes** to continue.

If all sample tubes have been correctly identified and if there are no unidentified samples or duplicate entries (depends on the software configuration), the **Sample Preparation/Fast Setup/Select ACS** screen appears (see Section 3.8.10).

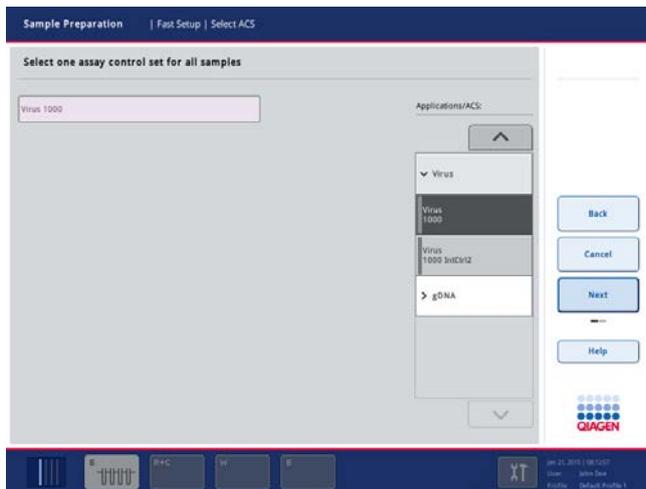


Sample Preparation/Fast Setup/Select ACS screen

3. Select an application from the **Applications/ACS** list. Use the up and down arrows to scroll through the list.

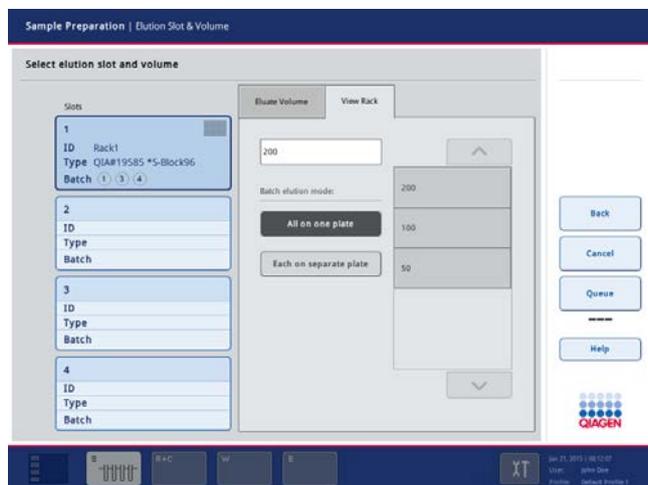
All available Assay Control Sets for use with this application are listed.

4. Select the Assay Control Set that should be used with the sample batch. The **Next** button then becomes active.



5. Press the **Next** button to continue.

The **Sample Preparation/Elution Slot & Volume** screen appears.



6. If samples are in more than one tube carrier, select the elution mode for the batch. If all eluates should be transferred to one elution rack, select **All on one plate**. If eluates from each batch should be transferred to a different rack, select **Each on separate plate**.
7. Select the corresponding elution slot or elution slots (depending on your choice for batch elution mode). We recommend using slot 1.
8. If you want to edit the default elution volume of the assigned Assay Control Set, select the elution volume to be used from the **Elution volume** list. Use the up and down arrows to scroll through the list.
9. Press the **Queue** button to finish the batch definition workflow. The batch status is **QUEUED**.

2.12.2 "Fast Setup" with samples loaded in plate carrier

If the sample batch is defined using the **Fast Setup** button, the software automatically provides sample information for all positions of the sample rack. For example, if samples are in a 96-well plate, the software automatically provides sample information for all 96 wells; if samples are in a 24-well plate, the software automatically provides sample information for all 24 wells.

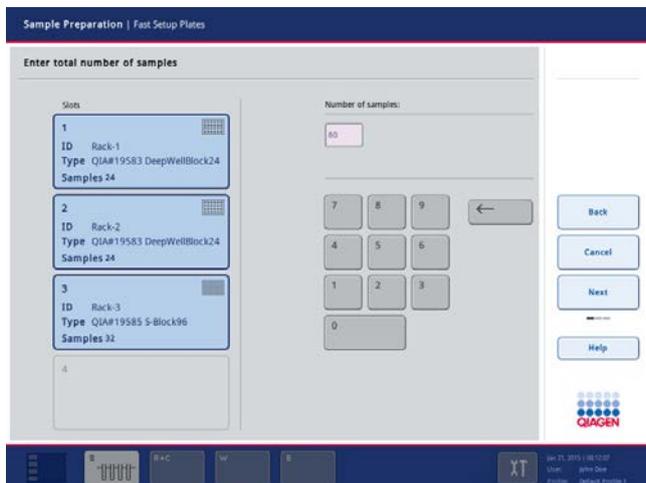
Therefore, if the first sample slot contains a 96-well plate, other sample racks cannot be used during the run.

If a rack file for the rack is found, the sample information is taken from the rack file. If the rack file cannot be used, an error message is displayed.

After loading the samples and assigning the correct sample rack types to the sample slots, the run can be defined using the **Fast Setup** button.

1. Press the **Fast Setup** button.

The **Sample Preparation/Fast Setup Plates** screen appears.

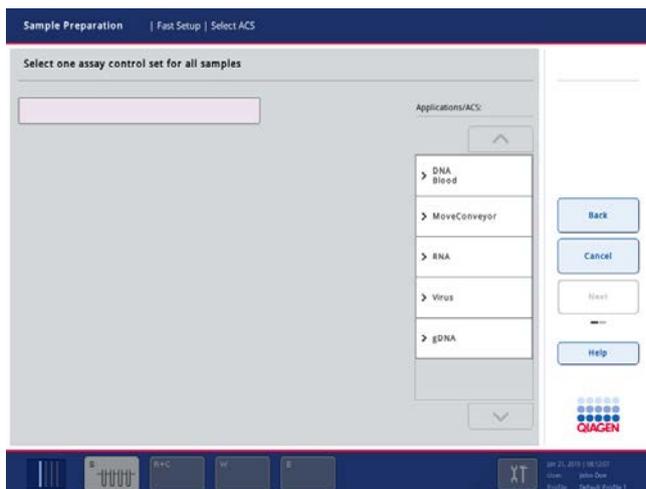


2. Enter the total number of samples (values from 1–96 only are allowed).

The samples are assigned to the different racks. From the first loaded sample slot the positions of the assigned plate are used. If the total number of samples exceeds the number of positions in the first loaded sample slot, the next sample rack will be used and so on, until the total number of samples is reached.

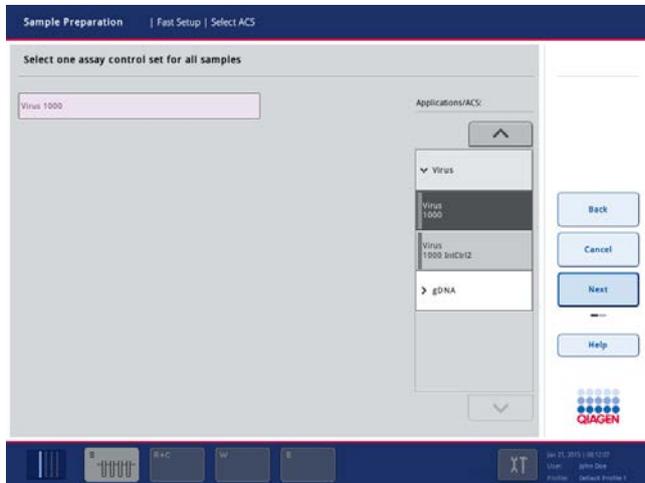
3. Press the **Next** button to continue.

The **Sample Preparation/Fast Setup/Select ACS** screen appears.

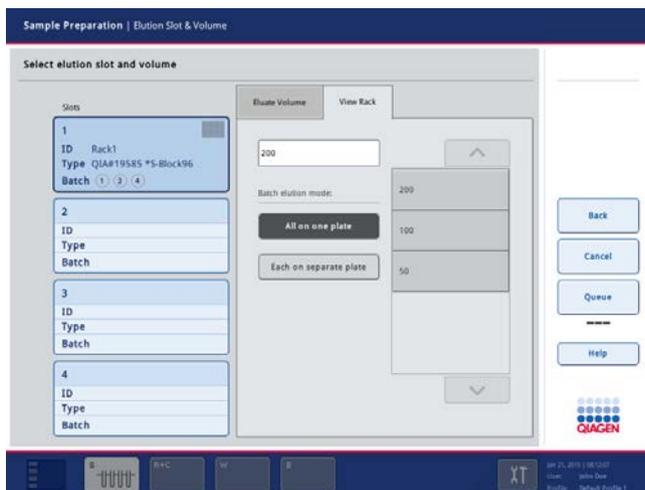


4. Select the application you want to run from the **Applications/ACS** list. Use the up and down arrows to scroll through the list.

All Assay Control Sets that can be used with the selected application will be displayed.



5. Select the required Assay Control Set. The selected Assay Control Set is displayed in the text field.
6. Press the **Next** button to continue with the batch definition workflow.



7. Select the elution mode for the batch. If all eluates should be transferred to one elution rack, select **All on one plate**. If each batch should be transferred to a different elution rack, select **Each on separate plate**.
8. Select the corresponding elution slot or elution slots. We recommend using "Elution Slot 1".
9. To use an elution volume other than the default elution volume defined in the selected Assay Control Set, select the required elution volume from the list. Use the up and down arrows to scroll through the list.
10. Press the **Queue** button to finish the batch definition workflow. The batch status is **QUEUED**.

2.13 Loading internal controls

Depending on the protocol/application being run, the use of internal controls may be required. If a protocol requires the use of an internal control, the internal control to be used is defined in the corresponding Assay Control Set. Assigning an Assay Control Set to a sample not only specifies which protocol should be used but also which internal control should be added to the sample.

If one or more internal controls for the ordered batches are missing, the **Wizard/Load IC Tubes** screen appears.



Wizard/Load IC Tubes screen.

Internal controls can only be used in combination with samples loaded in a tube carrier. Internal controls must also be loaded in a tube carrier.

Note: Internal controls cannot be loaded in a plate carrier.

Eight different internal controls can be used per batch of 24 samples and up to 24 different internal controls can be used for one run. Tubes containing internal control must be placed into the appropriate insert for the tube type before loading into the tube carrier. For more information, see Section 3.3.1 of the *General Description*.

Load the tube carrier into “Slot A” of the “Sample” drawer. See Section 2.7.1 for more information about loading the tube carrier.

Do not load internal controls into Slots 1–4, these slots are blocked as indicated by the red light.

Note: The maximum load weight of the “Sample” drawer is 5 kg (11 lb.). Therefore, do not lean on the drawer.

If the tubes containing internal control are bar code labeled and identification of the tubes is defined in an Assay Control Set, the QIA Symphony SP automatically detects which internal control is located in each position.

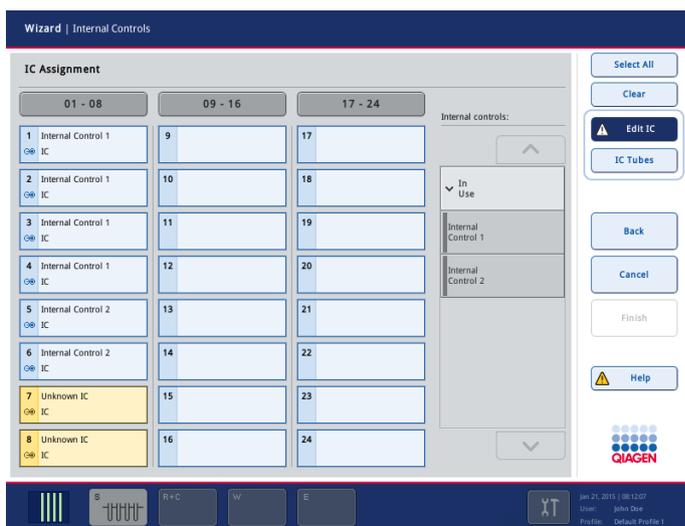
If the tubes are not bar code labeled, information about the internal control must be entered manually. For more information, see “**Sample Preparation** tab – **Sample Preparation/Overview** screen,” Section 3.8.2.

To enter information about the internal control, follow the steps below:

1. Press the **IC** button to check or modify the internal controls.



The **Wizard/Internal Controls** screen appears.



Wizard/Internal Controls screen.

If the internal control was labeled with a bar code but the bar code was not correctly read, the associated position button becomes yellow. To continue, the internal control has to be manually assigned using the internal controls displayed in the **Internal controls** list. If the internal control was not labeled with a bar code but the QIA Symphony SP detected that a tube was present, **Unknown IC** is displayed in the corresponding position. The internal control has to be manually assigned using the internal controls displayed in the **Internal controls** list.

Note: Although you can leave this screen without manually assigning the positions labeled **Unknown IC**, be sure to assign all required internal controls before starting a run, otherwise the run cannot be started.

2. Select the position that needs an internal control to be manually assigned by pressing the button.

3. Select the internal control in the **Internal controls** list. Use the up and down arrows to scroll through the list.

Internal controls are ordered into 3 groups:

- Optional** All internal controls known to the instrument that are not categorized as "Required" or "In use" appear under "Optional".
- Required** Batch(es) is(are) queued. The QIASymphony SP knows which internal controls are required to run the queued batches. The required internal controls are not detected automatically and have to be assigned to the detected positions.
- In use** The QIASymphony SP either has automatically detected an internal control or it was manually assigned to a particular position in the fifth tube carrier. These internal controls are listed under the category "In use".

4. Press **Finish** to close the Wizard.

2.14 Partial inventory scan

When not in the Wizard, it is possible to perform a partial inventory scan of the "Reagents and Consumables" drawer.

After loading or removing waste, reagents or consumables from the "Reagents and Consumables" drawer, close the drawer. The following message will be displayed.

Do you want to start the inventory scan on the "Reagents and Consumables drawer"?
71704

Tip Racks	<input type="button" value="Yes"/>	<input checked="" type="button" value="No"/>
Unit Boxes	<input type="button" value="Yes"/>	<input checked="" type="button" value="No"/>
Reagents	<input checked="" type="button" value="Yes"/>	<input type="button" value="No"/>
Buffer Bottle (optional)	<input type="button" value="Yes"/>	<input checked="" type="button" value="No"/>
Accessory Trough (optional)	<input type="button" value="Yes"/>	<input checked="" type="button" value="No"/>

Select **Yes** for the items that have changed and need to be rescanned, and select **No** for the items that do not need to be scanned. Once selected, a button appears dark blue.

Then select **Scan**, **No, nothing changed**, or **Scan later** to continue.

- Scan** Initiates an inventory scan. This may be a partial inventory scan, depending on the items selected in the dialog box. After the scan, the inventory of the “Reagents and Consumables” drawer is displayed in the **Consumables/Cartridges/Filter-Tips** screen.
- No, nothing changed** If the “Reagents and Consumables” drawer was opened and closed without any changes to the items loaded in the drawer, this button can be pressed and no inventory scan will be performed.
- Scan later** An inventory scan for the selected items will not be performed immediately, but just before the first batch is processed.

To check the inventory of the “Reagents and Consumables” drawer, press the “R+C” button in the status bar at the bottom of the touchscreen (see Section 3.3.2). The inventory from the previous inventory scan will be displayed in the **Consumables/Cartridges/Filter-Tips** screen.

If batches have been queued, you can also check whether sufficient reagents and consumables have been loaded to process the queued batches. If there are insufficient consumables or reagents, information about this will be displayed in this screen.

Additionally, you can check how many samples can be processed with a selectable Application/Assay Control Set with the loaded reagents and consumables.

Note: We recommend starting the inventory scan immediately after closing the drawer.

2.15 Starting a run

As soon as a batch is queued, the **Run** button appears.

When you have finished defining the samples you want to process, press the **Run** button. The software will then validate the batches.

2.15.1 Information available in the **Sample View** screen after loading samples

You can view information about queued batches/runs in the **Sample View** screen of the sample preparation menu on the **Sample Preparation** tab.

Blk	Src	Pos	Labware	Sample ID	Assay Control Set	Status	Dest	Pos
1	1	1	BD#352051 FalconPP 17x100	1001	Virus 1000	unprocessed	1	(0.0)
1	1	2	BD#352051 FalconPP 17x100	1002	Virus 1000	unprocessed	1	(0.0)
1	1	3	BD#352051 FalconPP 17x100	1003	Virus 1000	unprocessed	1	(0.0)
1	1	4	BD#352051 FalconPP 17x100	1004	Virus 1000	unprocessed	1	(0.0)
1	1	5	BD#352051 FalconPP 17x100	1005	Virus 1000	unprocessed	1	(0.0)
1	1	6	BD#352051 FalconPP 17x100	1006	Virus 1000	unprocessed	1	(0.0)
1	1	7	BD#352051 FalconPP 17x100	1007	Virus 1000	unprocessed	1	(0.0)
1	1	8	BD#352051 FalconPP 17x100	1008	Virus 1000	unprocessed	1	(0.0)
1	1	9	BD#352051 FalconPP 17x100	1009	Virus 1000	unprocessed	1	(0.0)
1	1	10	BD#352051 FalconPP 17x100	1010	Virus 1000	unprocessed	1	(0.0)
1	1	11	BD#352051 FalconPP 17x100	1011	Virus 1000	unprocessed	1	(0.0)
1	1	12	BD#352051 FalconPP 17x100	1012	Virus 1000	unprocessed	1	(0.0)
1	1	13	BD#352051 FalconPP 17x100	1013	Virus 1000	unprocessed	1	(0.0)

Sample View screen of the **Sample Preparation** tab menu.

The following information is displayed in the **Sample View** screen:

- Positions of the samples in the sample carrier
- Sample states (i.e., “unprocessed”, “valid”, or “invalid”)
- Labware used for samples
- Sample ID
- Assigned Assay Control Set
- Sample transfer volume
- Eluate volume
- Protocol

The remaining information will be added to the empty columns after sample preparation.

2.15.2 Batch validation

The application software validates the following items:

- Checks that the selected elution slots contain an elution rack with enough free positions.
- Depending on the software configuration of your QIASymphony SP, the QIASymphony SP checks that the expiration date of the reagents has not been exceeded.

- Checks that the loaded reagents are compatible with the protocol(s) that are to be run and that sufficient reagent volumes are provided.

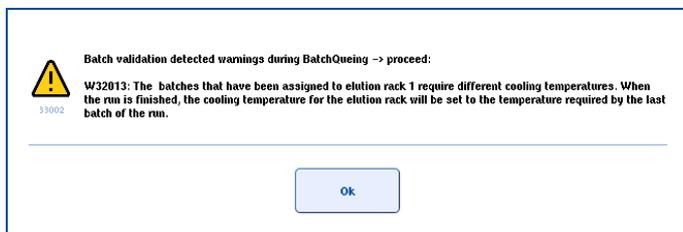
Note: The volume of internal control is not checked at this point, it is checked later.

- Checks that sufficient consumables (i.e., 8-Rod Covers, disposable filter-tips and sample prep cartridges) have been loaded for the queued batches.
- Checks that there is sufficient space available for used consumables.
- Checks that the liquid tip park station is mounted.
- Checks that the instrument hood is closed and that the drawers are locked.

If the QIASymphony SP has not yet performed initialization tests, these are now carried out.

If the protocol uses an internal control, the robotic arm picks up tips and checks that sufficient volume of internal control has been loaded.

If an error occurs during batch validation, the software displays a message with information about the error. Correct the error, and then press the **Run** button again.



If no errors are detected, the run is started and the first queued batch will be processed. All other queued batches will be processed in the order in which they were defined.

2.16 Continuous loading of samples/internal controls

In many cases, samples will be loaded and batches queued in sequential runs. One run is processed after the other. However, a sample batch can also be queued while a run is active. The next batch will be processed as soon as the running or scheduled batch is finished, without a delay. This is referred to as continuous loading. Continuous loading on the QIASymphony SP is possible for up to 96 samples in any number of batches, provided that the consumables drawer is fully loaded before commencing the first batch.

When using tube carriers, it is possible to load samples and additional internal controls while other batches are being processed.

Before starting a run with continuous loading, ensure that:

- Additional reagents that are required (e.g., ethanol, buffer in 60 ml buffer bottle) are loaded.
- The elution rack is correctly positioned in the “Eluate” drawer before setting up a batch. If you need to assign an elution slot during batch setup (while a run is active), only the slots that already contain racks may be used.
- Elution racks are set up before a run is started. This ensures that multiple scans of the “Eluate” drawer are not performed. Every time a scan is performed, the current run is paused.

Recommendation: Make sure that enough tips, reagents, waste space and consumables for all runs including subsequent runs loaded via continuous loading are loaded.

When setting up continuous loading, to avoid errors, termination of the run and/or serious damage to the instrument, please consider the following important points:

- Do not exchange a reagent cartridge.
- Do not add additional consumables to the “Reagents and Consumables” drawer. Additional tips may be loaded only if a message appears informing the user that there are insufficient tips to continue the batch. Loading consumables leads to a complete scan of the “Reagents and Consumables” drawer. The run will then pause while the scan is performed. Because the run was paused, all samples will be marked as “unclear”.
- Do not pause a run.
- Do not edit internal controls in the **Internal Controls** screen without first unloading the tube carrier with the internal controls, exchanging the tubes in the carrier and reloading the carrier.
- Do not reopen the **Internal Controls** screen if the internal controls of the running batch have not yet been transferred to the samples. In this case, a message will be displayed that the tube carrier for the internal controls is still in use. The **Internal Controls** screen must be closed. The user must wait until transfer of the internal controls is completed.

Note: It is not possible to use the “Fast Setup” function if the sample plate carrier is used. The button is not shown while another batch is running. After a run has started, it is not possible to load a plate carrier.

2.16.1 Setting up a batch

If there is no free slot in the “Sample” drawer available, the tube carrier containing sample tubes from a completed batch can be unloaded after the sample transfer of the current batch is finished.

To set up the batch, start the Wizard, and continue with batch setup as described in Section 2.2. Loading of reagents and consumables is not required and the screens for loading the “Reagents and Consumables” drawer will be skipped in the Wizard.

During batch setup, only Assay Control Sets that are compatible with the loaded reagent cartridges can be selected.

Important: If batch setup fails during a run due to insufficient consumables, cancel the batch setup. Wait for processing of the current run to finish, load more consumables, and then try again. Alternatively, try again during the current run with a reduced number of samples, without loading more consumables.

2.16.2 Loading internal controls

During a run, reloading of the internal control tube carrier is possible if the current batch does not require internal controls or if the internal controls have already been transferred. To unload or load the carrier, open the **Internal Controls** screen by pressing the **IC** button in the **Sample Preparation** tab in the **Sample Preparation** menu. Opening the screen unlocks the internal control slot in the “Sample” drawer. The tube carrier can then be unloaded and reloaded and the internal control data can be edited.

To replace the tubes of internal controls in the tube carrier, remove all tubes that are no longer required. This reduces tip consumption since unnecessary liquid-level measurements do not need to be performed. The liquid level of all defined internal controls is determined before the next batch starts.

During a run, unloading and loading the tube carrier containing internal controls will result in liquid-level measurement of all tubes of internal control in the tube carrier, defined by the **Internal Controls** screen or recognized by a bar code, before the next scheduled batch is started.

- Keeping the **Internal Controls** screen open causes the run to pause if the internal control carrier should be used at that time. By closing the **Internal Controls** screen, an automatically paused batch will be resumed.
- Queued batches that cannot be performed due to missing internal control(s) will be suspended. This ensures that other batches that are scheduled are still processed.

2.16.3 Suspended batch

If you load an additional tube carrier and define a batch while a run is being performed, the QIASymphony SP checks before starting a new batch whether enough reagents, consumables and internal controls are available to process the provided samples. Validation errors may occur (e.g., not enough internal control). The batch will be suspended and the QIASymphony SP will try to start the next batch. The suspended batch is still queued and can be processed in a further run. If the

configuration parameter “Wait for user intervention” is set to a certain time (seconds), a dialog box will be displayed for this set period of time, giving the user time to resolve the validation errors. If the user intervention time is exceeded, the batch will be suspended and can be processed in a later run.

The parameter **Number of seconds enabled for user intervention before batch suspension?** is by default set to zero. This configuration parameter can be changed by the “Supervisor”. If batches are suspended, the “S” button becomes yellow and starts to flash.

2.17 Pausing, resuming and stopping a run

2.17.1 Pausing a run

A run can be paused by pressing the **Pause** button in the **Sample Preparation** tab of the **Sample Preparation** menu. If a run is paused, the command being processed is completed before the run pauses. All running batches will be paused.

If the run is paused, 2 options are available: the run can be resumed or stopped.

Note: Pausing a run interrupts the sample preparation procedure. Only pause a run in an emergency.

Note: Pausing a run results in the processed samples being flagged as “unclear”.

The screenshot displays the QIASymphony SP/AS software interface. The top navigation bar includes "Sample Preparation" (with a warning icon) and "Tools", along with a "Log Out" button. The main area is titled "Overview" and contains a table of batch information:

Status	Batch ID	Protocol	Destination	Time
PAUSED	2000005	RNA_CT_400_V1	Slot 1	00:00:03h
QUEUED	2000006	RNA_CT_400_V1	Slot 1	
QUEUED	2000007	BS_Virus_1000	Slot 1	
QUEUED	2000008	BS_Virus_1000	Slot 1	

Below the table, a progress bar for "SP Batch 1" shows "processing Wash 1: 0%" and "Remaining: n/a". A "Wizard" button is visible to the right of the table. At the bottom right, there are buttons for "Continue SP", "Stop SP", and "Help". The QIAGEN logo is also present. The bottom status bar shows the date "Jan 21, 2015 | 08:12:07", the user "John Doe", and the profile "Default Profile 1".

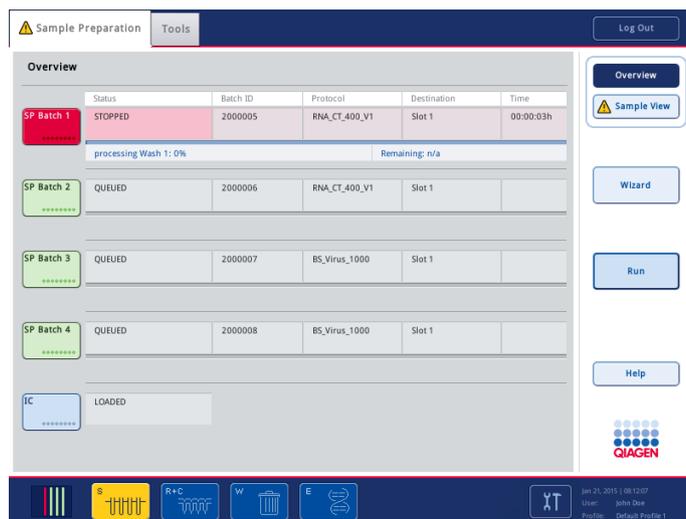
2.17.2 Resuming a run

To resume a run, press the **Continue SP** button. If the run was paused, the samples will be flagged as “unclear”.

2.17.3 Stopping a run

Press the **Stop SP** button to stop the run. All batches currently being processed will be stopped. Other batches with the status **QUEUED** can be processed in another run after following the cleanup procedure.

If the run is stopped, all processed samples are flagged with “invalid”. It is not possible to process these samples further or to resume the run.



2.17.4 Canceled run

After stopping a run, or if the run stops due to an error, the “S” button is flashing. Press the “S” button to display the warning or error message. This message gives the hint to perform the cleanup procedure in the **Maintenance SP** screen.

To perform the cleanup, proceed as follows:

- Enter the **Maintenance SP** screen and press the Cleanup button.

Important: Ensure that the appropriate branch of the cleanup is selected. See Section 2.23 for further details.

The instrument will remove all used consumables from the magnetic head and will discard all liquids from the sample prep cartridges. Do not remove the consumables manually unless explicitly advised to do so by the **Cleanup** protocol.

Note: This protocol requires a unit box containing 3 sample prep cartridges in the “Reagents and Consumables” drawer and at least one empty unit box in the “Waste” drawer.

Important: After successful cleanup it is necessary to empty all slot positions in the “Sample” and “Eluate” drawers. New runs can then be defined and started.

2.18 End of batch processing/run

The recommended workflow is as follows:

1. Unload elution rack(s).

Note: If eluates in a completed batch or stopped run have been transferred to an elution rack that is only for eluates from this batch, the elution rack may be removed when batch processing is finished.

2. Unload the tube/plate carriers containing processed samples.
3. Optional: Unload internal controls (if not required for the next sample batch).
4. Remove the reagent cartridge (if it is not required for the next sample batch). Seal the troughs with Reuse Seal Strips and store according to the instructions in the kit handbook.

2.19 Unloading the QIASymphony SP

When the batches have been processed, the eluates must be removed from the QIASymphony SP. The samples must also be unloaded.

2.19.1 Unloading the “Eluate” drawer

If your QIASymphony SP is not connected to a QIASymphony AS, or if you are operating your QIASymphony SP/AS instruments in independent mode, eluate racks must be manually unloaded from the “Eluate” drawer. If using the QIASymphony SP/AS instruments in integrated mode, an elution rack on “Elution slot 1” is directly transferred to the “Eluate and Reagents” drawer of the QIASymphony AS by automatic transfer via the transfer module. To transfer elution racks from any elution slot other than “Elution slot 1”, a manual transfer must be performed.

For increased flexibility, elution racks can be removed from the “Eluate” drawer before a protocol run has finished. As soon as eluates have been transferred to an elution rack, the elution rack can be removed from the drawer.

Note: If the elution rack will be used for another subsequent batch, the elution rack cannot be unloaded.

If an elution rack is ready to be unloaded, the “E” button in the status bar at the bottom of the touchscreen becomes green.

Important: For sample preparations without internal controls, check presence of eluate for each sample processed.

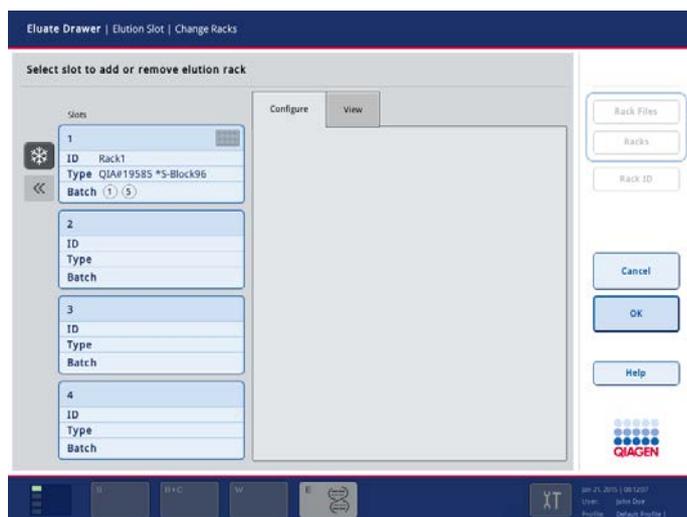
When an elution rack is removed, the rack file for the elution rack is finalized and the result file for the elution rack is generated. The rack file and result file can be downloaded using the QIASymphony Management Console or via file transfer from the QIASymphony SP to the USB stick.

For a detailed description of how to manually remove elution racks and how to perform an automatic transfer of an elution rack to the QIASymphony AS, see the following sections.

Manually removing an elution rack

1. Open the “Eluate” drawer.

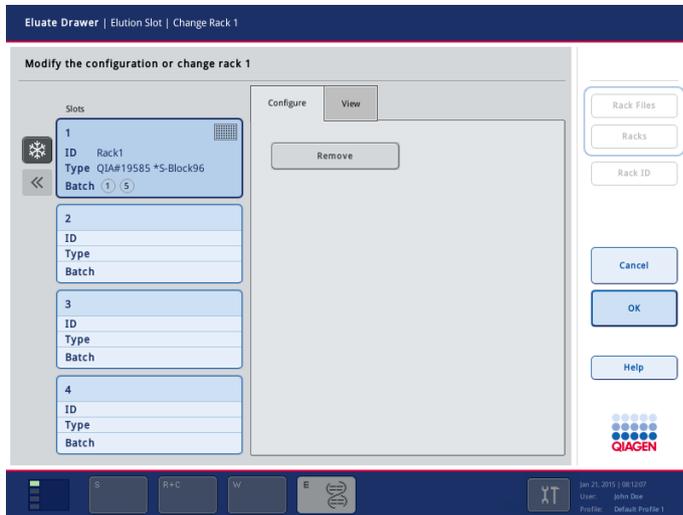
The **Eluate Drawer/Elution Slot** screen appears.



Eluate Drawer/Elution Slot screen.

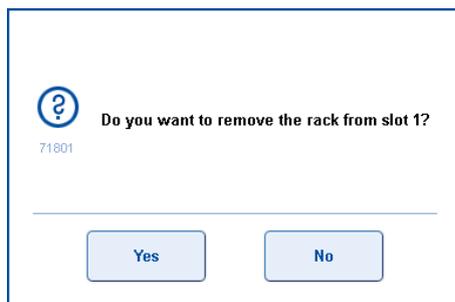
2. Select the elution slot from which the elution rack should be removed.

The Eluate **Drawer/Elution Slot/Change Rack X** screen appears.



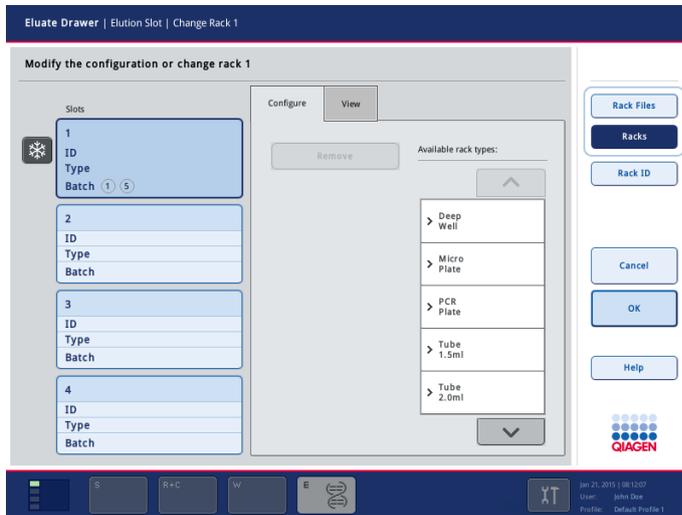
Eluate Drawer/Elution Slot/Change Rack X screen.

3. Press the **Remove** button in the **Configure** tab to remove the elution rack from the inventory. Depending on the software configuration of your QIA Symphony SP, it may be necessary to confirm removal of an eluate rack from the “Eluate” drawer. You will be prompted to re-enter or rescan the eluate rack ID. Otherwise, the software displays a message asking whether you want to remove the elution rack from the selected slot.



4. Press **Yes** to continue.

The **Eluate Drawer/Elution Slot/Change Rack X** screen is displayed. The rack on the selected slot is removed.



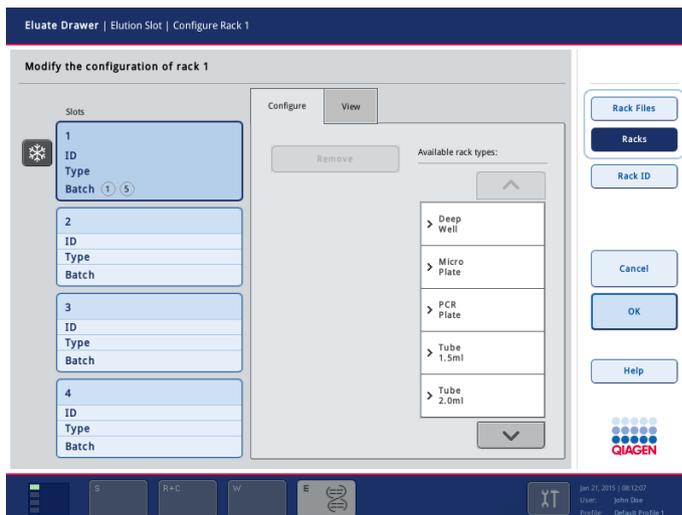
5. Remove the elution rack from the elution slot.

Note: If the elution rack was used with an elution adapter, also remove the adapter.

Note: If eluate cooling in “Elution slot 1” was turned on, it will be turned off as soon as the **OK** button or **Yes** button, respectively, is pressed.

6. To unload additional elution racks, repeat the process.
7. When all elution racks have been unloaded, close the “Eluate” drawer.

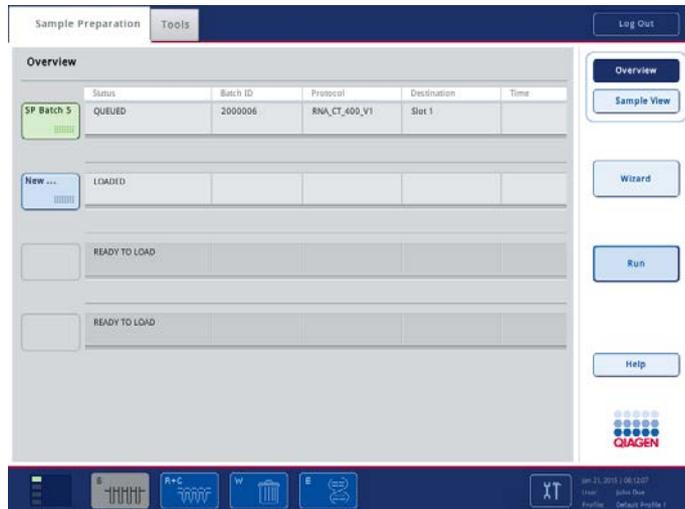
The **Eluate Drawer/Elution Slot/Configure Rack X** screen appears.



Eluate Drawer/Elution Slot/Configure Rack X screen.

8. Press the **OK** button.

The QIAasymphony SP performs an inventory scan of the “Eluate” drawer. Afterwards the **Sample Preparation/Overview** screen is displayed.

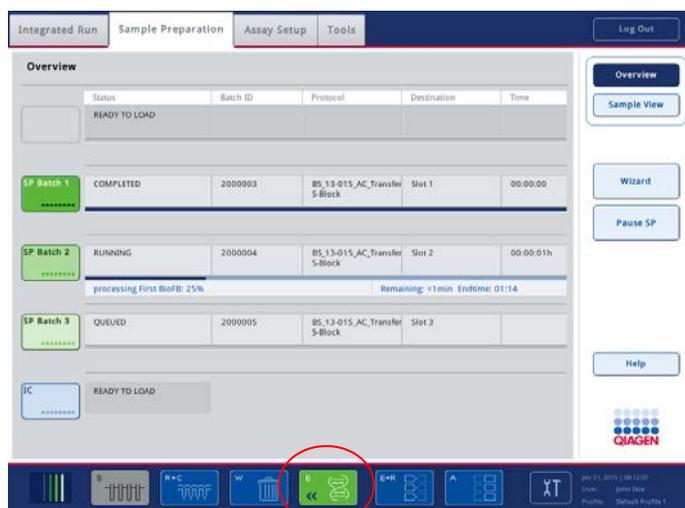


Automatic transfer of an elution rack to the QIAasymphony AS

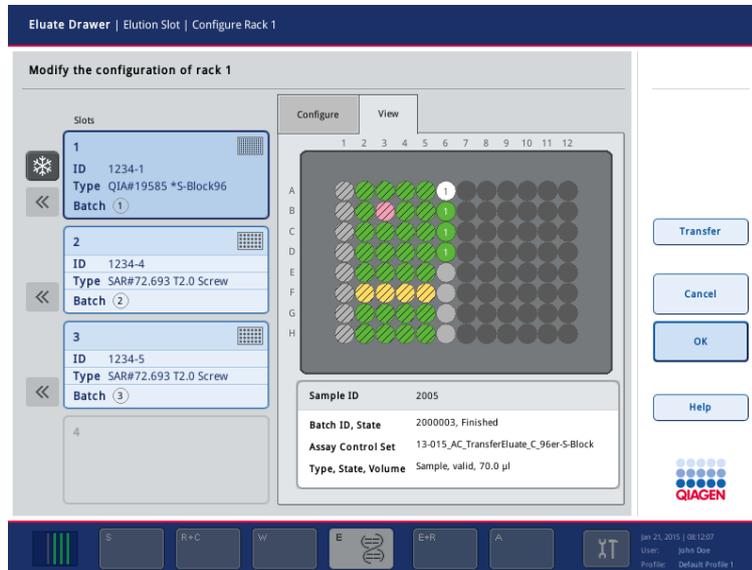
Note: If your QIAasymphony SP is not connected to a QIAasymphony AS, you can ignore this section.

Important: To be able to perform automatic transfer, the transfer frame must first be installed on “Elution Slot 1”. See Section 3.8.3 of the *General Description* for more details about how to do this.

1. Press the “Eluate” drawer (“E”) button in the status bar of the sample preparation user interface.



The **Eluate Drawer/Elution Slot/Configure Rack X** screen appears.



- Automatic transfer can only take place from “Elution slot 1” to slot 2 of the QIA Symphony AS. Therefore, select “Elution slot 1”.

Note: Automatic transfer of the eluate rack is not possible if the QIA Symphony AS left drawer was not scanned.

- A message appears asking **Do you really want to transfer?** Press **Yes** to confirm and transfer the eluate rack.

The QIA Symphony SP/AS instruments check if the transfer frame is already in use. If the instruments recognize that there is no elution rack present on slot 2 of the QIA Symphony AS, the elution rack, including adapter, is then transferred to the QIA Symphony AS.

After transfer, the QIA Symphony SP screen is automatically updated. The QIA Symphony SP **Overview** screen appears.

- The “E+R” button will flash yellow. Press the “E+R” button.
- A message appears asking **Do you really want to start ordering with the rack (rack ID) that has just been transferred?** Press **Yes** to continue.

The QIA Symphony AS sample rack **Overview** screen appears. Information about the transferred elution rack is displayed.

Note: There is no need to define a rack type or rack ID for the transferred elution rack because the corresponding rack file and associated information is automatically transferred for use on the QIA Symphony AS.

2.19.2 Unloading reagents and consumables

Removing a reagent cartridge

To remove a reagent cartridge from the “Reagents and Consumables” drawer, follow the steps below.

1. Open the drawer.
2. Pull the reagent cartridge to the left and slide it out of the slot.
3. To avoid evaporation of reagents, we strongly recommend resealing the troughs of the reagent cartridge immediately after use. Reseal the troughs using Reuse Seal Strips provided in QIAasymphony Kits. Replace screw-caps on the tubes in the enzyme rack.



4. For storage, remove the reagent cartridge from the reagent cartridge holder and store according to the instructions in the kit handbook. The reagent cartridge holder can then be used in combination with other kits. Store the enzyme rack according to the instructions in the kit handbook.

If the reagent cartridge is empty, remove it from the reagent cartridge holder and discard it according to your local safety regulations.

Removing tip racks

Tip racks can be left in the “Reagents and Consumables” drawer.

Tip racks only need to be removed if:

- The tip racks are empty.
- Maintenance needs to be performed (e.g., decontamination using the UV lamp).
- The instrument will not be used for a long period of time.

To remove a tip rack from the QIAAsymphony SP, follow the steps below.

1. Hold the tip rack between two fingers by the recessed grips.
2. Gently squeeze the tip rack together.
3. Remove the tip rack.

If you need to remove the tip racks prior to performing maintenance procedures, the tip racks can be replaced after maintenance has been performed.

CAUTION



Damage to the instrument

Do not refill partially used tip racks. A mixture of various tip sizes in one rack will result in an error during the run.

Removing unit boxes (8-Rod Covers and sample prep cartridges)

Unit boxes can be left in the “Reagents and Consumables” drawer.

Unit boxes only need to be removed if:

- The unit box is empty.
- Maintenance needs to be performed (e.g., decontamination using the UV lamp).

To remove a unit box from the “Reagents and Consumables” drawer, follow the steps below.

1. Open the “Reagents and Consumables” drawer.
2. Grasp the unit box by its upper edge.
3. Pull it out of the drawer.

Replace the lids of partially used or unused unit boxes.

Empty unit boxes must be saved for collection of used sample prep cartridges and 8-Rod Covers in the “Waste” drawer.

Recommended workflow for unloading the “Reagents and Consumables” drawer

1. Remove reagent cartridge, and seal troughs using Reuse Seal Strips. Store the reagent cartridge according to the instructions in the kit handbook.
2. If a buffer bottle was required for the purification procedure, remove it from the drawer and replace the lid.
3. If an Accessory Trough was required for the purification procedure, remove it from the drawer.
4. Remove tip racks, if necessary.
5. Remove unit boxes, if necessary. If unit boxes are to be left in the drawer, replace the lids.

2.19.3 Unloading samples

Samples can be removed from the QIA Symphony SP when the carrier slots are unlocked.

Depending on the batch status, different actions can be carried out after removing the tube carrier.

Batch status before removal	Batch status after removal	Description
LOADED	READY TO LOAD	The sample carrier can be inserted again with new samples.
STOPPED or COMPLETED	READY TO LOAD	The sample carrier can be inserted again with new samples. Information about the completed or stopped batch is no longer displayed in the Sample Preparation/Overview screen. However, the information can be viewed in the Sample View screen of the Sample Preparation menu.
QUEUED	READY TO LOAD	The sample carrier can be inserted again with new samples.
RUNNING (samples have been transferred)	RUNNING	A sample carrier can be inserted again after batch has been completed.

Removing a tube carrier

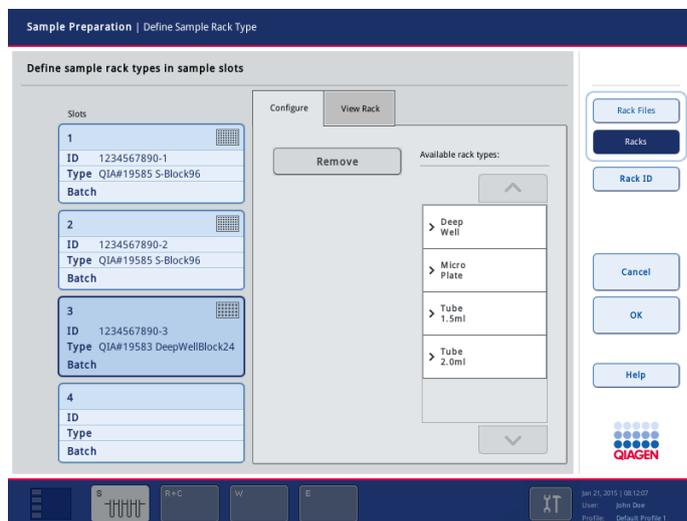
If the tube carrier slot is not locked (LED is not illuminated red), the tube carrier can simply be removed from the slot. The tube carrier can be removed as soon as the samples have been transferred.

Removing a plate carrier

To remove samples in plates from the inventory, follow the steps below.

1. Press the "S" button in the status bar at the bottom of the touch-screen.

The **Sample Preparation/Define Sample Rack Type** screen appears.



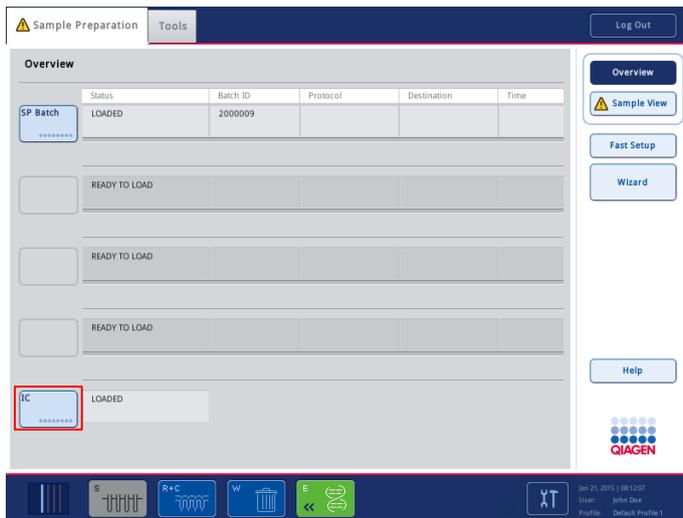
Sample Preparation/Define Sample Rack Type screen.

2. Select the sample slot of the rack to be removed.
3. Press the **Remove** button.
4. The sample rack is removed from the inventory. Remove the sample rack from the “Sample” drawer. A new rack can then be placed onto the slot.
5. To remove further sample racks, repeat steps 2–3.
6. Press **OK** to return to the **Sample Preparation/Overview** screen.

Note: If sample racks are bar code labeled, the QIA Symphony SP automatically detects if the sample rack is available. All associated batches will be removed if the sample rack is no longer available.

2.19.4 Unloading internal controls

Internal controls in a tube carrier can be removed from the QIA Symphony SP when the carrier slot is unlocked. If batches are running and you need to load additional internal controls, press the **IC** button to unlock the carrier slot “A”.



If the QIASymphony SP does not need to access the tube carrier in “Slot A”, the internal controls can be unloaded. Remove the carrier with internal controls from “Slot A” by gently sliding it out of the “Sample” drawer. The status of the internal controls changes from **LOADED** to **ON HOLD**. The QIASymphony SP will retain the information about the internal controls provided earlier.

Loading internal controls during a run

After unloading the tube carrier containing internal control, the tube carrier containing internal control has to be inserted again. After inserting the tube carrier, the status changes from **ON HOLD** to **LOADED**.

If the carrier is reloaded, the QIASymphony SP will automatically assign bar code identified internal controls (if no reading errors occur). For tubes that are not bar code labeled and use the same insert, the internal control will be assigned that was used before tube carrier containing internal control was removed. If you provide other internal controls in this position, make sure to assign the correct internal control.

2.20 Removing a batch

After defining a batch or if a batch is completed or stopped, the batch has to be removed by the user. It will not be removed from the QIASymphony SP automatically.

2.20.1 Samples loaded in the tube carrier

If samples are loaded in a tube carrier, the batch can be removed by following the steps below.

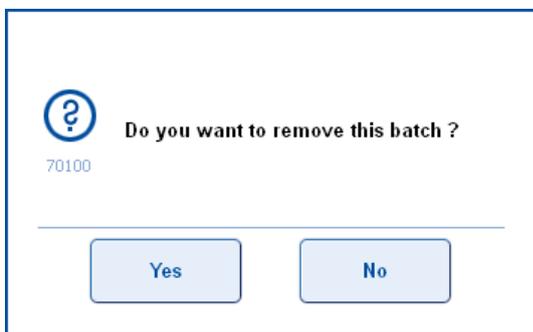
Status **QUEUED**, **STOPPED**, or **COMPLETED** (tube carrier was not removed before stop or completion):

- Simply remove the tube carrier from the corresponding slot.

Status **COMPLETED** or **STOPPED** and tube carrier was removed before end of batch:

1. Press the **Batch** button in the **Sample Preparation/Overview** screen.

A message will appear that asks whether you want to remove the batch.



2. Press **Yes** to confirm.

2.20.2 Samples loaded in the plate carrier

If samples are loaded in a plate carrier, the batch can be removed using one of two different methods.

Method 1

Remove the sample batch by following the instructions in "Removing a plate carrier", page 84.

All batches using this sample rack are removed.

Method 2

1. Press the **Batch** button in the **Sample Preparation/Overview** screen.

A message will appear that asks whether you want to remove the batch. See also step 2 of Section 2.20.1.

2. Press **Yes**.
3. Remove the plate carrier from the "Sample" drawer.

2.21 End of working day

Recommended workflow at the end of the day

1. Remove consumables, reagent cartridges, buffer bottle, and Accessory Troughs.

Note: Be sure to seal partially used reagent cartridges with Reuse Seal Strips. Store partially used reagent cartridges according to the instructions in the kit handbook.

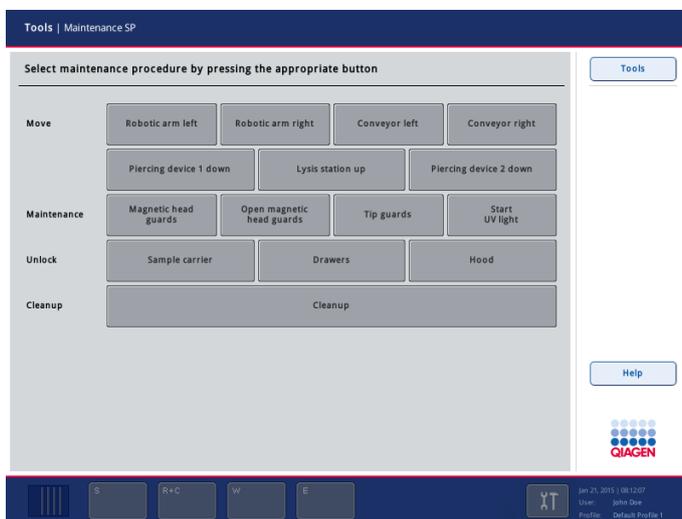
2. Empty the liquid waste container.
3. Unload the unit boxes from waste drawer.

Note: Sample prep cartridges in the unit boxes can contain residual liquid from the extraction run. Be sure to seal unit boxes with lids before disposal to avoid spillage of residual liquid.

4. Unload all elution racks.
5. Perform maintenance procedures described in Section 9 of the *General Description*.

2.22 Operating individual components of the QIAAsymphony SP

Instrument components can be managed in the **Maintenance SP** screen. To enter the **Maintenance SP** screen from the **Sample Preparation** menu, press **Tools** then press **Maintenance SP** in the **Tools** screen.



The **Maintenance SP** screen.

2.22.1 Maintenance SP dialog panel

Buttons are displayed in the dialog panel and the dialog panel is divided into 4 parts. When a button is pressed, a service protocol is run.

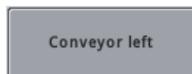
Move



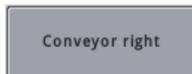
Moves the robotic arm to the left.



Moves the robotic arm to the right.



Moves the conveyor of the magnetic head to the left. If consumables are at the left side of the magnetic head, an error will occur.



Moves the conveyor of the magnetic head to the right. If consumables are at the left side of the magnetic head, an error will occur.



Returns the reagent cartridge to its home position in case of malfunction.

Note: The "Reagents and Consumables" drawer can only be opened when the reagent cartridge is in its home position.



Moves the lysis station to its upper position.



Returns the reagent cartridge to its home position in case of malfunction.

Note: The "Reagents and Consumables" drawer can only be opened when the reagent cartridge is in its home position.

Maintenance



Moves the magnetic head guard into the maintenance position. In this position, the magnetic head guard can be removed for cleaning or maintenance. For detailed information about maintenance procedures, see Section 9 of the *General Description*.



Opens the MH guard of the magnetic head unit.

Tip guards

Moves the robotic arm, including the tip guards, into the maintenance position. In this position, the tip guards can be removed for cleaning or maintenance. For detailed information about maintenance procedures, see Section 9 of the *General Description*.

Start
UV light

Activates the onboard UV lamp.

Unlock

Sample carrier

Unlocks the sample carrier.

Drawers

Unlocks all instrument drawers. If a malfunction results in the drawers remaining locked, this script allows the user to manually unlock the drawers.

If the drawers are still locked after performing the script, switch off the instrument. If the problem persists, contact QIAGEN Technical Services.

Hood

Unlocks the hood of the QIASymphony SP. If a malfunction results in the hood remaining locked, this script allows the user to manually unlock it.

If the hood is still locked after performing the script, switch off the instrument. If the problem persists, contact QIAGEN Technical Services.

Cleanup

Cleanup

Enables worktable cleanup if:

- A batch was aborted due to an error
- A batch was stopped by the user

There are 2 types of cleanup:

- One specifically for use with investigator protocols (please contact QIAGEN Technical Service for details)
- One for all other protocols. This type of cleanup is divided into 3 branches (**User interrupted run**, **Crash occurred** and **Other**) and may also include manual intervention.

Important: After successful cleanup, it is necessary to empty all slot positions (“Sample” drawer and “Eluate” drawer).

2.23 Cleanup

We recommend only performing cleanup if the QIA Symphony SP/AS instruments were not switched off after an error occurred, and if no changes were made to the consumables loaded on the worktable.

Note: Rodslots are the black magnetic rods of the magnetic head (MH).

Important: Do not manually remove any consumables from the worktable unless instructed to do so. Ensure that safety instructions are followed. Dispose of liquid waste and used consumables according to your local safety regulations.

CAUTION

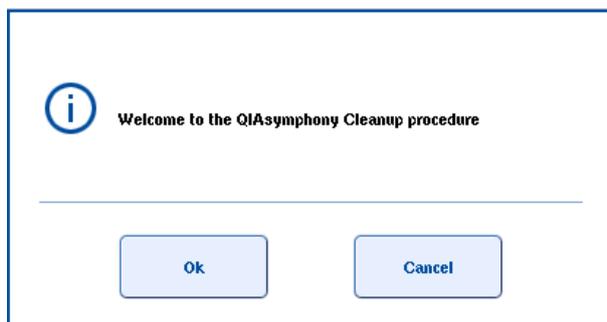


Hazardous materials and infectious agents

The waste contains samples and reagents. This waste may contain toxic or infectious material and must be disposed of properly. Refer to your local safety regulations for proper disposal procedures.

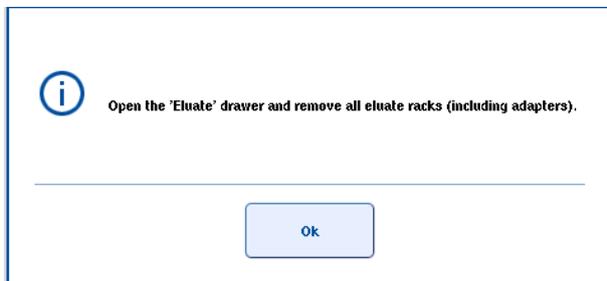
To perform cleanup, proceed as follows:

1. Press **Cleanup** in the **Maintenance SP** screen.
2. The following “Welcome” message is displayed.

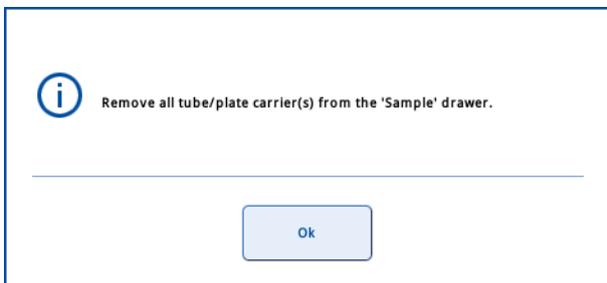


3. Press **OK** to continue.

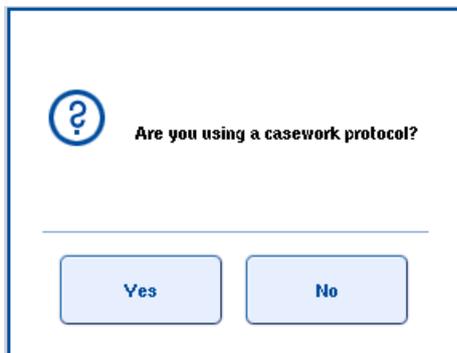
The following message appears.



4. Remove all elution racks from the "Eluate" drawer
5. Press **OK** to continue. The following screen appears.

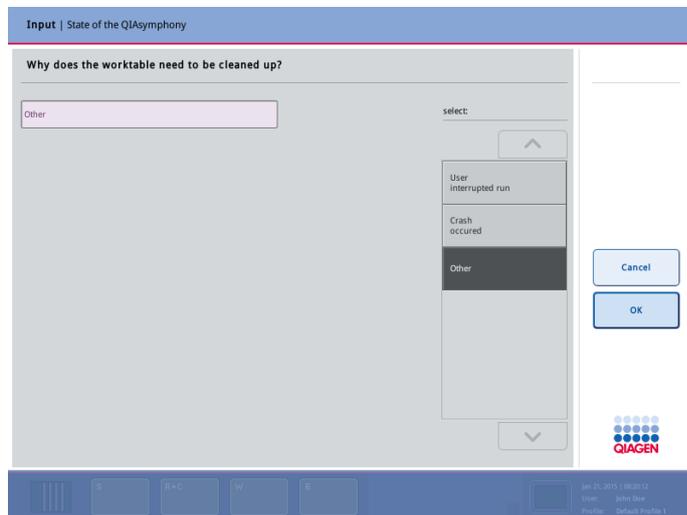


6. Remove all sample carriers.
7. Press **OK** to continue. The following message appears.



8. Press **No**.

The following screen appears.



9. Select the appropriate branch of the cleanup (**User interrupted run**, **Crash occurred**, or **Other**). See the table below for more information. Press **OK** to continue

Note: If the QIASymphony SP/AS was restarted, the **Other** branch is automatically selected. Proceed to step 10.

User interrupted run Select if the user paused and stopped the run and no error occurred. No manual intervention is required.

Important: Cannot be used if an inventory scan was performed due to changed worktable layout after the batch was canceled/stopped, or if the QIASymphony SP/AS instruments were restarted by the user. In these cases, use the **Other** branch of the automatic cleanup instead.

Crash occurred Select if an error occurred. Cleanup is semi-automatic; some manual intervention is required.

Other Select in all other cases not outlined by the “User interrupted run” and “Crash occurred”. Cleanup is semi-automatic; some manual intervention is required.

10. Follow the instructions on the screens. They will guide the user step-by-step through the cleanup protocol.

Note: By following the instructions on the screen, all used consumables will be removed from the magnetic head and worktable, and all liquids in sample prep cartridges will be discarded.

11. After cleanup, empty all slot positions (i.e., in the “Sample” and “Eluate” drawer).

3 Sample Preparation User Interface

The QIASymphony Operating Software is developed exclusively for use with the QIASymphony SP/AS instruments.

The software has the following menus that are required for operation of the QIASymphony SP:

- **Tools** screen for accessing the 8 menus: **Maintenance SP**, **Service SP**, **File Transfer**, **Rack Browser**, **Labware Browser**, **Instrument Report**, **User Management** and **Configuration**.
Note: The **Maintenance AS**, **Service AS** and **Assay Favorites** menus are also accessible from the **Tools** screen. These menus are only required for operating the QIASymphony AS. For more information about these menus, see *Operating the QIASymphony AS*.
- **Sample Preparation** menu for running protocols, to control the individual drawers, for logging in to the instrument, and for the Wizard.
- **Maintenance SP** menu within the **Tools** menu for performing routine maintenance procedures (see Section 9 of the *General Description*) and to operate individual modules of the QIASymphony SP.
- **Service SP** menu within the **Tools** menu for performing service protocols, to initialize the instrument and to transfer files (e.g., result files, log files, Assay Control Set files or labware files) from the USB stick to the QIASymphony SP/AS instruments (see Section 8.3 of the *General Description*).
- **File Transfer** menu within the **Tools** menu for downloading and uploading files to/from the USB to the QIASymphony SP/AS instruments.
- **Rack Browser** menu within the **Tools** menu for viewing rack files saved on the QIASymphony SP/AS instruments.
- **Labware Browser** menu within the **Tools** menu for viewing additional information about labware.
- **Instrument Report** menu within the **Tools** menu for creating reports that help QIAGEN Technical Services with troubleshooting.
- **User Management** menu within the **Tools** menu for managing users and passwords.
- **Configuration** menu within the **Tools** menu for setting configuration parameters.

A protocol is a set of instructions that allows the QIASymphony SP to perform a molecular biology application. The handbook supplied with your QIASymphony kit will tell you which protocol you should use.

An Assay Control Set is the combination of a protocol plus additional parameters, such as internal control. For example, if an internal control is used, the Assay Control Set defines the protocol, the internal control and optional identification of the internal control through bar code reading.

3.1 Starting the QIASymphony software

If the QIASymphony SP is switched off, switch the instrument on by pressing the power switch at the front-left of the QIASymphony SP. The QIASymphony SP performs initialization tests and the startup screen will be displayed.

Once initialization is complete, the sample preparation menu is displayed and the user can log in.

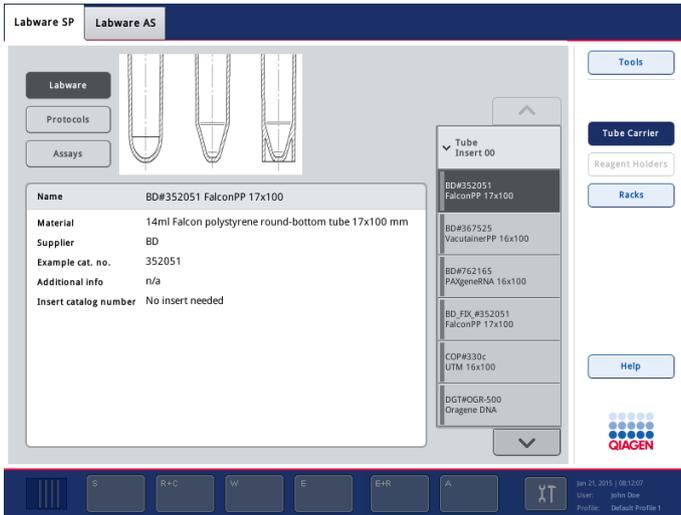
3.2 Software features common to all screens

The software uses a number of features common to all screens to provide information about actions performed and instrument status.

3.2.1 General screen elements

Each software screen contains the same general elements.

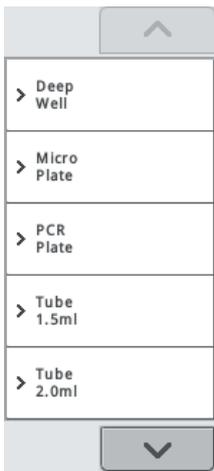
Menu name	Shows the menu that is active. With some menus, more than one tab is available. For example, the Labware Browser menu contains two tabs: <ul style="list-style-type: none">● Labware SP tab● Labware AS tab
Dialog panel	The dialog panel is the part of the screen in which information is displayed. Some dialog panels may also contain buttons and text fields. For more information, refer to the description of the corresponding screen.
Command bar	The command bar contains buttons that enable the user to select information, proceed through a workflow, cancel a workflow, call up the software help texts, or access other menus and screens. For more information, refer to the description of the corresponding screen.
Status bar	The status bar provides information about the different drawers of the QIASymphony SP/AS instruments and information about date and time and the user who is currently logged in.
QIAGEN logo	Displays the software version.



Labware SP tab of the Labware Browser menu.

3.2.2 Up and down arrows

Some dialog panels contain lists with parameters that can be selected by the user.



Example of a list in the QIASymphony software.

To move up through the list, press the up arrow. To move down through the list, press the down arrow.

In some lists, an item can be directly selected whereas in other lists a category must first be selected followed by the item. An item or category is selected by pressing it.

3.2.3 Messages

During operation of the QIASymphony SP/AS instruments, messages may appear that provide the user with general information, inform the user that operator input is required, or provide information about warnings and errors. Each type of message contains a symbol for easy identification by the user.



This symbol is displayed if the message contains information about an error.



This symbol is displayed in warning messages.



This symbol is displayed if input by the user is required.



This symbol is displayed if the message provides the user with information.



This symbol is displayed if a response time is approximately greater than 5 seconds is expected.

3.3 Status bar

The status bar allows the user to view information about the status of each of the QIASymphony SP drawers and the QIASymphony AS drawers.



Status bar

Note: The drawer buttons for QIASymphony AS will only be available if you have a QIASymphony AS instrument.

3.3.1 Batch status icon

The way the batch status icon is displayed varies according to whether samples are loaded in a tube or plate carrier.



Batch status icon.

The batch status icon provides the user with information about each sample batch.

The color of each tube carrier denotes the status of the associated batch (see “Drawer buttons”, Section 3.3.2, for more information).



The status of batch 4 is QUEUED.

3.3.2 Drawer buttons

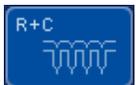
There is a button for each of the QIASymphony SP drawers in the status bar. If a drawer button is pressed or if the drawer is opened, the corresponding software screen described below appears.

Note: When using the QIASymphony AS, there is a button for each of the QIASymphony AS drawers next to the QIASymphony SP drawer buttons in the status bar. See Section 3.1.2 of *Operating the QIASymphony AS* for more details.



Press the “S” button to open the **Sample Preparation/Define Sample Rack Type** screen.

If the “S” button is flashing, press the button so that the warning or error message can be displayed.



Press the “R+C” button to open the **Consumables/8-Rod Covers/Tubes/Filter-Tips/Reagent Cartridges** screen.



Press the “W” button to open the **Waste** screen.



Press the “E” button to open the **Elution Slot/Configure Racks** screen.

“S” button

The button for the “Sample” drawer is active if the **Batch Overview** or **Sample View** screen of the **Sample Preparation** menu is displayed.

If samples are loaded in the plate carrier, the **Sample Preparation/Input Rack** screen appears when the “S” button is pressed.

“R+C” button

The button for the “Reagents and Consumables” drawer is active if the **Consumables/8-Rod Covers/Tubes/Filter-Tips/Reagent Cartridges** screen is displayed. This screen appears when the “R+C” button is pressed.

If insufficient consumables and reagents are loaded for the queued batches, the “R+C” button becomes yellow and flashes. After opening the **Consumables/8-Rod Covers/Tubes/Filter-Tips/Reagent Cartridges** screen, the “R+C” button becomes gray again.

“W” button

The button for the “Waste” drawer is active when the “Waste” screen is displayed. This screen appears after the “W” button has been pressed.

If there is insufficient space in the “Waste” drawer for used 8-Rod Covers or sample prep cartridges, the “W” button becomes yellow and flashes. After opening the “Waste” screen, the button becomes gray again.

“E” button

The button for the “Eluate” drawer is active if either the **Sample Preparation/Elution Slot/Configure Racks** or the **Sample Preparation/Elution Slot** screen is displayed. One of these screens appears when the “E” button is pressed or if the “Eluate” drawer is opened.

Note: The “E” button becomes green and the arrow symbols flash if an elution rack is ready to be removed from the “Eluate” drawer.

Colors of drawer buttons

The color of each button changes to show the current status of the drawer.

Gray	This shows that the drawer is active.
Yellow and flashing	<p>If an error occurs, the drawer button turns yellow and flashes to alert the user.</p> <p>If the run is stopped either by the user or due to an error, the “S” button becomes yellow and flashes. If the button is then pressed, the corresponding error message is displayed. The user must then press the OK button to continue. The “S” button becomes gray again.</p>
Blue	If one of the drawer buttons is active, the buttons for the other drawers are displayed in blue.
Anthracite	If the “Eluate” drawer or Sample Preparation/Input Rack screen is open, the buttons for the other drawers become anthracite.
Green and flashing	This applies only to the “E” button for the “Eluate” drawer. The “E” button becomes green and the arrow symbols flash if an elution rack is ready to be removed from the “Eluate” drawer.

3.3.3 Date and time

Date and time are displayed at the bottom right of the status bar.



3.3.4 User logged in

The name of the user currently logged in is displayed below the date and time.

3.4 Command bar

The command bar is at the right of each screen. The buttons that appear in the command bar vary according to the screen displayed.

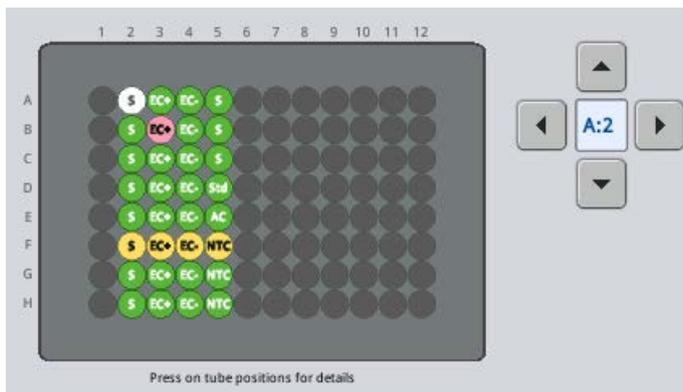
3.4.1 General buttons

When you press the buttons, the following actions will be initiated:

	Closes the screen without saving the changes.
	Opens the next screen in the workflow.
	Opens the previous screen.
	Saves the changes and closes the current screen.
	Provides information to help the user complete the current screen.
	Displays the software version.

3.5 Schematic plates

Schematic plate diagrams are used in some screens to display racks and their contents. Press on a position to show its details, or select a position using the arrow buttons.



Example schematic plate.

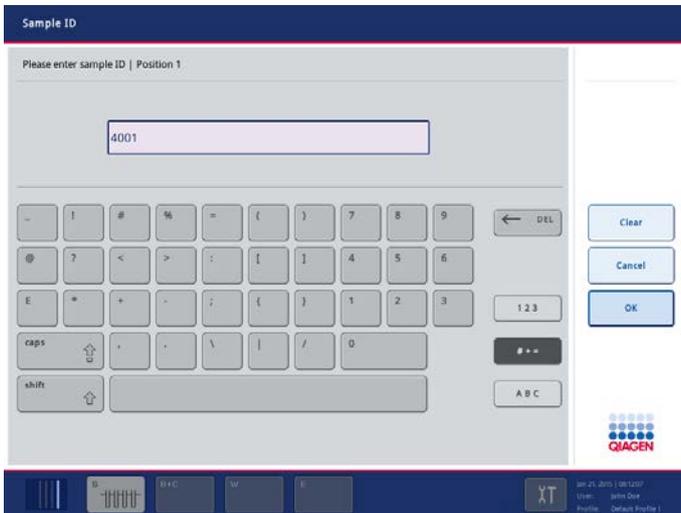
Blue 	Position is assigned to a batch.
Light green 	Position is assigned to a batch that is currently being processed.
Dark green 	Position has been processed.
Hatched gray 	Position is blocked or reserved and cannot be used.
Yellow 	Sample has the status "unclear".
Red 	Sample has the status "invalid".
Gray 	Position is empty.
White 	Position is currently selected.
	Moves selection one position to the right.
	Moves selection one position to the left.
	Moves selection one position up.
	Moves selection one position down.

3.6 Screens (all menus)

3.6.1 **Keyboard** screen

A virtual keyboard is displayed in the **Keyboard** screen, enabling, for example, sample IDs, elution rack IDs and elution slot IDs to be scanned with a handheld scanner or to be manually entered. The virtual keyboard has a standard "QWERTY" keyboard.

If a software screen contains a text field that is colored light pink, press the text field and the **Keyboard** screen appears.



Keyboard screen.

Buttons in the command bar

In addition to general buttons (see Section 3.4.1), the screen displays the following button.



Removes text from the text field.

Text field

The text field displays scanned or manually entered text and numbers.

Virtual keyboard

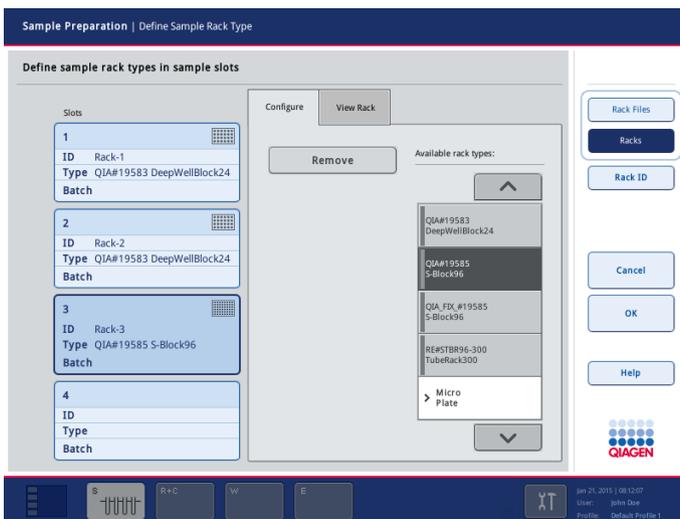
The virtual keyboard is based on a standard "QWERTY" keyboard. The default view of the virtual keyboard is the "ABC" view, with letters and numbers displayed. To enter symbols, press the "Symbols [# + *]" button.



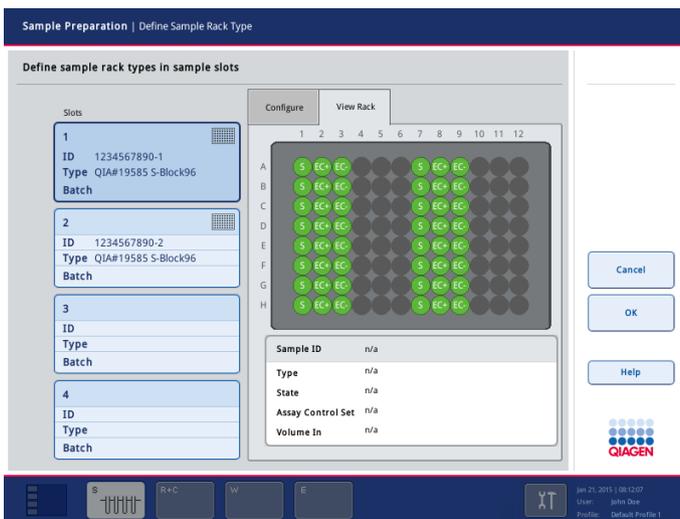
3.6.2 Sample Preparation/Define Sample Rack Type screen

This screen appears if samples are loaded in the plate carrier.

The **Configure** tab of this screen enables the user to assign racks to the sample slots and to assign IDs to the sample racks. The **View Rack** tab displays sample information and sample positions in a schematic plate.



Sample Preparation/Define Sample Rack Type screen (Configure tab).



Sample Preparation/Define Sample Rack Type screen (View Rack tab).

Command bar



When selected, the control panel displays the available rack files.



When selected, the control panel displays the available sample rack types.



Displays the **Keyboard** screen, enabling the user to manually enter rack IDs.

Dialog panel

Sample slot buttons 1–4 (**Slots**) If bar codes have been scanned or entered manually and sample rack types assigned, this information is displayed in the information field next to the slot button. To select a slot, press the appropriate button.

Note: If the bar code reader in the “Sample” drawer detects a sample rack, the type of sample rack must be assigned. If not, the **OK** button does not become active.

Remove Removes the rack from the selected slot.

Available rack types list

If **Racks** is selected, the list of all rack type categories with rack types that can be assigned to the sample slots is displayed. To assign a sample rack type, proceed as follows:

1. Select the slot by pressing the appropriate slot button.
2. If **Rack Files** is selected, press **Racks**.
3. Select the sample rack category by pressing the item in the list. Use the up and down arrows to scroll through the list.

A list of rack types in the selected category that can be assigned to the selected sample slot is displayed.

4. Select the type of rack by pressing the item in the list. Use the up and down arrows to scroll through the list.

Available rack files list

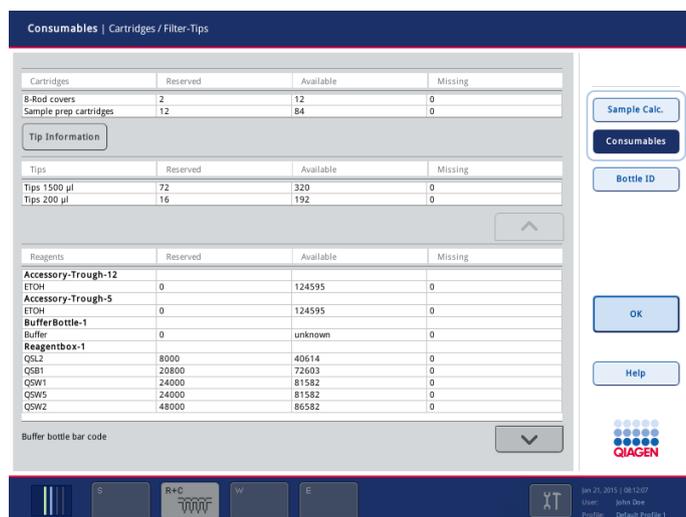
If **Rack Files** is selected, the list of all available rack files that can be assigned to the sample slots is displayed. To assign a sample rack file, proceed as follows:

1. Select the slot by pressing the appropriate slot button.
2. If “Racks” is selected, press “Rack Files”.
3. Select the sample rack file by pressing the item in the list. Use the up and down arrows to scroll through the list.

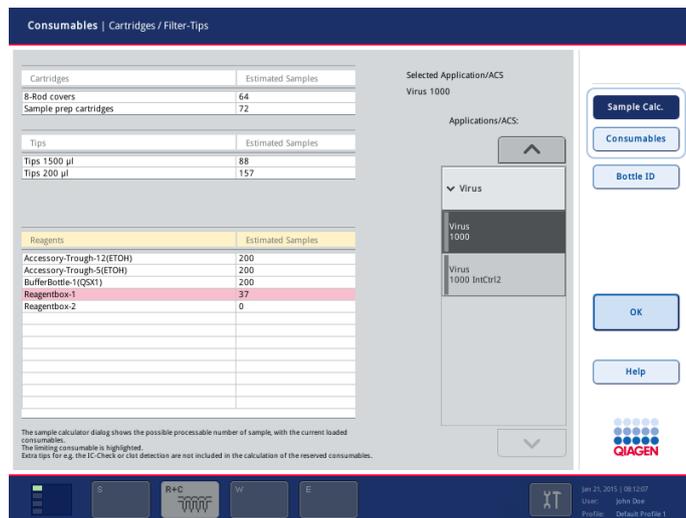
3.6.3 Consumables/Cartridges/Filter-Tips screen

This screen consists of 2 dialog panels – the **Consumables** dialog panel and the **Sample Calculation** dialog panel. It provides information about 8-Rod Covers, sample prep cartridges, reagent cartridges, filter-tips and an additional buffer bottle and Accessory Trough (not required for all protocols; see the handbook of the QIAasymphony kit you are using for more information).

This screen enables the bar code of the buffer bottle to be scanned or entered. If consumables or reagents are missing, information will be provided in this screen.



Consumables/Cartridges/Filter-Tips screen (Consumables dialog panel).



Consumables/Cartridges/Filter-Tips screen (Sample Calculation dialog panel).

Command bar

A blue rectangular button with rounded corners and a thin border, containing the text "Sample Calc." in a sans-serif font.

Opens the **Sample Calculation** dialog panel.

A blue rectangular button with rounded corners and a thin border, containing the text "Consumables" in a sans-serif font.

Opens the **Consumables** dialog panel.

A blue rectangular button with rounded corners and a thin border, containing the text "Bottle ID" in a sans-serif font.

Displays the **Keyboard** screen. If the application requires an additional bottle of buffer, the bar code can be entered either manually or using a handheld bar code scanner. The bar code enables the QIA Symphony SP to identify which buffer has been loaded.

Dialog panel

Consumables panel

The **Consumables** dialog panel displays information in tabular format about reagents and consumables that are reserved, available or missing. If an additional buffer bottle is required for the protocol, the bar code is displayed in this dialog panel.

Sample Calculation panel

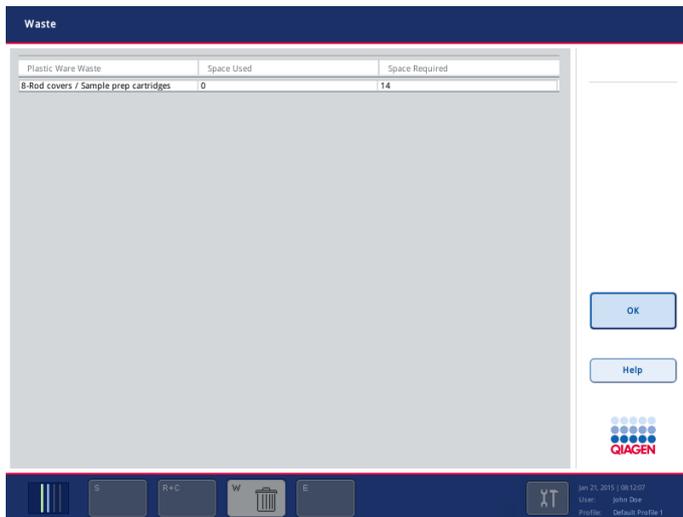
The **Sample Calculation** dialog panel displays information about the remaining number of samples that can be processed with the reagents and consumables that are currently loaded on the worktable. Any reagents and consumables that are reserved by existing batches are not included in the calculations. Limiting resources are shown in red and other resources are calculated to a maximum of 200 samples. Numbers relate to the particular Assay Control Set that is selected in the **Applications/ACS** list.

Note: Since the default elution volume is used for calculations, the actual number of additional samples that can be processed may differ slightly.

The calculation is updated if an application/ACS is selected or changed, or after finishing a new inventory scan.

3.6.4 Waste screen

This screen displays information about used consumables and liquid waste.

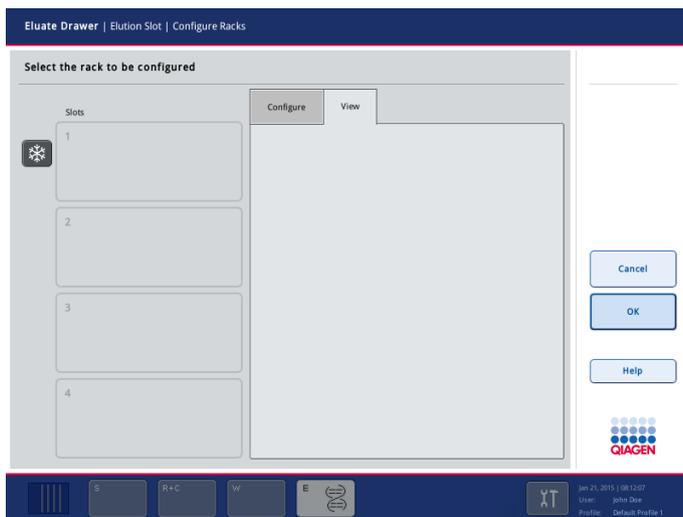


Dialog panel

The dialog panel displays information in tabular format about used consumables. The status of the liquid waste is also shown.

3.6.5 Eluate Drawer/Elution Slot/Configure Racks screen

This screen is displayed when the E button is pressed.



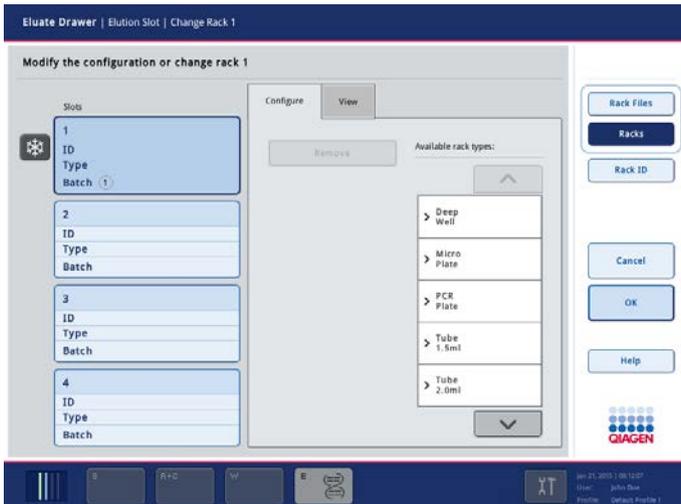
Sample Preparation/Elution Slot/Configure Racks screen.

Note: To be able to assign or remove elution racks, the “Eluate” drawer must be open.

For further details, see Section 2.5.

3.6.6 Eluate Drawer/Elution Slot/Change Rack X screen

This screen is displayed when the **E** button is pressed and a slot is selected.

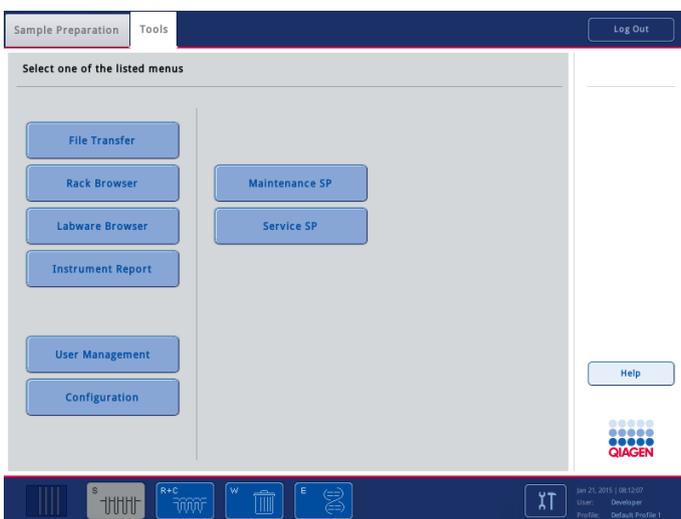


Note: To be able to assign or remove elution racks, the “Eluate” drawer must be open.

For further details, see Section 2.5.

3.7 Tools screen

The **Tools** screen provides access to several menus. Depending on the role assigned to the user, different menus and screens are displayed and can be accessed.



Tools screen visible to the “Supervisor”.

The “Operator” can access the following menus:

- **Maintenance SP**
- **Service SP**
- **User Management**
- **File Transfer**
- **Instrument Report**
- **Rack Browser**
- **Labware Browser**

The “Supervisor” can access the following menus:

- **Maintenance SP**
- **Service SP**
- **Configuration**
- **User Management**
- **File Transfer**
- **Instrument Report**
- **Rack Browser**
- **Labware Browser**

Note: If you also have the QIASymphony AS, the **Assay Favorites**, **Maintenance AS** and **Service AS** menus are also available from the **Tools** screen. These menus are only required for operating the QIASymphony AS. For more information about these menus, see the *Operating the QIASymphony AS*.

After initialization, the **Sample Preparation** menu is displayed.

To access any of the other menus, follow the steps below.

1. Press the **Tools** button in the current screen.
2. Select the menu to be accessed by pressing the appropriate button in the **Tools** screen.

The selected menu appears.



This button is inactive for the “Operator” and only available for the “Supervisor”. Displays the **Configuration** menu. See Section 6 of the *General Description* for more details.



Displays the **User Management** menu. See Section 7 of the *General Description* for more details.

File Transfer

Displays the **File Transfer** menu. See Section 8 of the *General Description* for more details.

Instrument Report

Displays the **Instrument Report** menu. See Section 3.14 for more details.

Rack Browser

Displays the **Rack Browser** menu. See Section 3.15 for more details.

Labware Browser

Displays the **Labware Browser** menu. See Section 3.16 for more details.

Maintenance SP

Displays the **Maintenance SP** menu. See Section 3.10 for more details.

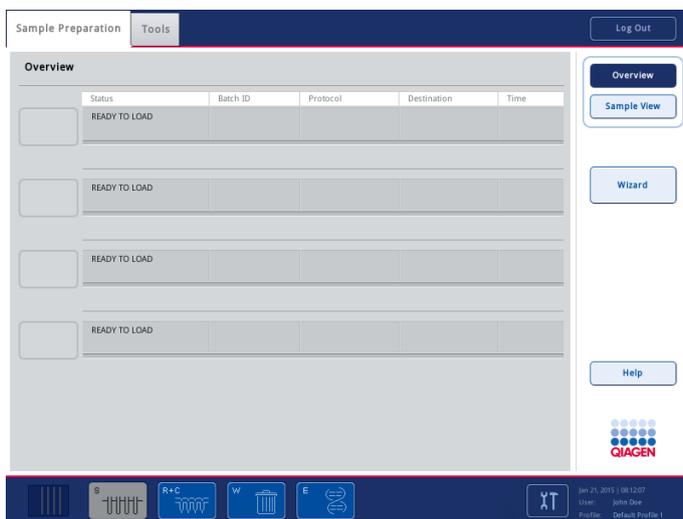
Service SP

Displays the **Service SP** menu. See Section 3.12 for more details.

3.8 Sample Preparation menu

The **Sample Preparation** menu is used to:

- Assign Assay Control Sets (if samples are already loaded)
- Run up to 4 sample batches (if batches are queued)
- View information about the QIA Symphony SP and the progress and state of sample preparation
- Log in to and out of the QIA Symphony SP



Sample Preparation menu (Sample Preparation tab).

Press **Sample Preparation** to select the **Sample Preparation** tab. To select the **Sample View** screen, press the **Sample View** button in the command bar.

In addition, a **Log In** button is displayed at the top right of the screen. The **Log In** button enables the user to log in with a different user ID. The user can log in with either the “Supervisor” or the “Operator” user ID.

The user with the “Supervisor” user ID can:

- Upload Assay Control Sets, protocols, process configuration profiles, cartridge information, duration files, rack files, work lists, scripts and labware files from the USB stick to the QIAAsymphony SP.
- Download result files, log files, confirmation files, instrument reports, duration files, rack files, work lists, Assay Control Sets, protocols, process configuration profiles, cartridge information, users, scripts and labware files from the QIAAsymphony to a USB stick.

Note: Users with the “Operator” user ID can also download log files, result files, confirmation files, instrument reports, rack files and work lists. They are also able to upload rack files and work lists.

- Synchronize files on the QIAAsymphony SP with files saved on a USB stick (e.g., for deletion of files on the QIAAsymphony SP) and vice versa.
- Configure date, time and the default tube types.
- Manage users and passwords

This user with the “Operator” user ID can:

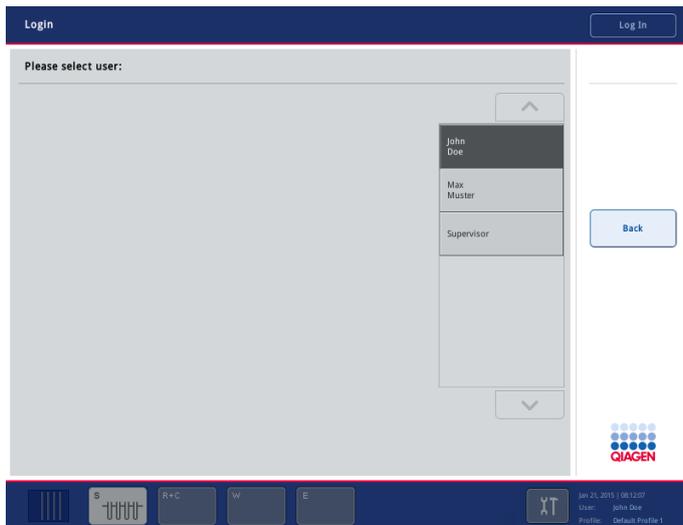
- Define and run batches
- Download result files and log files
- Clear result files
- Change their own password



If the **Log Out** button is pressed, the user currently logged in is logged out.

3.8.1 Login screen

The **Login** screen displays the list of users with active user accounts.



Login screen.

Dialog panel

Users list

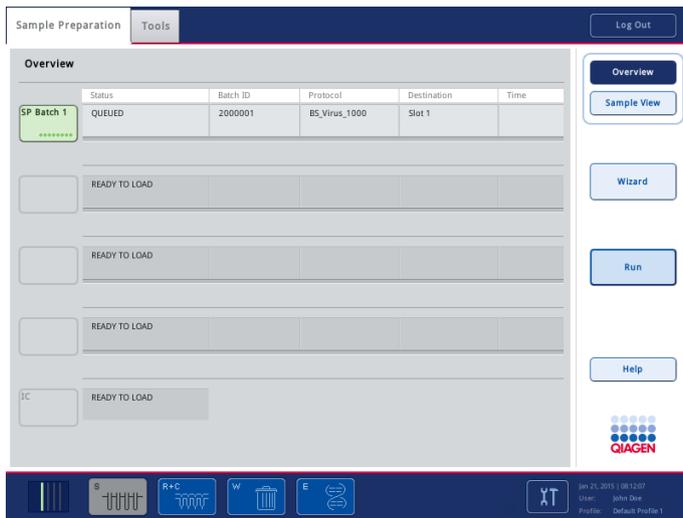
To log in to the QIASymphony SP, select the corresponding login name from the users list. The **Keyboard** screen then appears, which enables the user to enter their password. Press **OK** to complete the log in.

After successful login, the **Sample Preparation/Overview** screen is displayed. Depending on your assigned role ("Supervisor" or "Operator"), you have different access rights.

3.8.2 Sample Preparation tab – Sample Preparation/Overview screen

The **Sample Preparation** tab shows the status of all sample batches. It also enables the user to define batches after samples are loaded and to assign internal controls to positions in the fifth tube carrier ("Slot A"). For samples loaded in tubes, the position of the batch button corresponds to the loaded sample slot. For example, if a tube carrier is loaded into slot 2, the second batch button becomes light blue.

If samples are in plates, the next available batch button becomes light blue and is labeled **New....** To load the batch, the user must assign samples to this batch. With samples in tubes, this happens automatically.



Sample Preparation tab.

Sample batch status

The status of each sample batch is denoted by the color of the relevant batch button. For more information about defining sample batches, see Section 2.11.

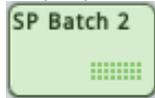
Blue



The sample batch is loaded.

- For samples in tubes, the position of the batch button corresponds to the slot number that the tube carrier was loaded into.
- For samples in plates, the first available batch button becomes blue and is labeled **New**.

Light green



The batch is loaded and queued. Assay Control Set and elution slot have been assigned.

Green



The samples in the batch are being processed.

Dark green



The samples in the batch have been processed and purified nucleic acids or proteins eluted. If further batches are to be eluted into separate elution racks, this elution rack can be unloaded.



Orange

All batches currently being processed are paused. The batches can be either continued or stopped.



Red

The batch has been stopped by either the user or due to an error. If processing was stopped due to an error, the "S" button, which corresponds to the "Sample" drawer, becomes yellow (see Section 2.17).

Command bar



The **Fast Setup** button is visible if samples are loaded in a tube carrier or if at least one plate containing samples is loaded in the plate carrier.

The same Assay Control Set is assigned to all samples in a run or batch. If the **Fast Setup** button is pressed, the batch definition workflow starts (see Sections 2.12 and 3.8.13 for more information).

Note: Make sure that samples are in the default tube type for the insert used. If samples are in other tubes, do not use **Fast Setup** to assign the same Assay Control Set to all samples.

Fast Setup is not available during a run.



Starts the Wizard.



The **Run** button is active if at least one batch has been queued. Press **Run** to start batch validation. If the defined batch is successfully validated, the run will start. If there is a problem with the defined batch during validation, a warning will appear with more information.



If a run is in progress, the **Pause SP** button is visible. The **Pause SP** button should only be pressed in an emergency. After pressing **Pause SP**, the QIASymphony SP completes the current command being processed, pauses the protocol and changes the sample state to "unclear". If the protocol has been paused either by the user or due to an error, a **Stop SP** and **Continue SP** button appear (see Section 2.17).

Note: The drawers of the QIASymphony SP will be unlocked and the samples of the processed batch will be flagged as "unclear".

A rectangular button with a light blue background and a thin blue border. The text "Stop SP" is centered in a medium blue font.

The **Stop SP** button appears if the current run is paused. Press **Stop SP** to stop all currently running batches. Batches that have been queued but have not yet been processed remain queued.

Note: Refer to Section 2.23 for information about worktable cleanup.

A rectangular button with a light blue background and a thin blue border. The text "Continue SP" is centered in a medium blue font.

The **Continue SP** button appears if the current run is paused. Press the **Continue SP** button to continue the run.

Note: A run should only be paused in an emergency.

Dialog panel

SP Batch

SP Batch X

New...

The status of each batch is shown. Depending on the batch status, pressing the **SP Batch** button may result in an action being performed.

- **READY TO LOAD** – the **SP Batch** button is inactive in this state.
- **LOADED** – If the **SP Batch** button is pressed, the batch definition workflow starts.
- **STOPPED/COMPLETED** – If the **SP Batch** button is pressed, the batch will be removed and new samples can be loaded. Pressing the **SP Batch** button has the same effect as removing the tube carrier for that slot.
- **PAUSED** – the **SP Batch** button is inactive in this state.

Note: The "X" represents the batch number as a substitute for the Batch ID. See Section 3.8.3 for more details.

IC

The **IC** button is for the internal control and is only active if internal controls are loaded in a tube carrier. Depending on the status of the internal control, pressing the **IC** button may result in an action being performed.

- **READY TO LOAD** – the **IC** button is inactive in this state.
- **LOADED** – if the **IC** button is pressed, the **Sample Preparation/Internal Controls** screen is displayed. This screen enables the user to view the loaded internal controls. If tubes are not bar code labeled or if an error occurred during bar code reading, this can be resolved in this screen (for more information, see Section 3.8.14).

If batches are being processed and additional internal controls need to be loaded, press this button to unlock the IC carrier slot so that the tube carrier can be removed.

- **ON HOLD** – a carrier with internal controls is not currently inserted, but it was previously inserted and then removed. The QIAsymphony SP retains the information about the previously loaded internal controls if the **Sample Preparation/Internal Controls** screen is open.

Table

Status	<p>The batch status is displayed.</p> <p>READY TO LOAD – samples can be loaded.</p> <p>LOADED – samples are loaded and can be defined for processing.</p> <p>QUEUED – samples are loaded and the batch is defined. The batch is queued for processing.</p> <p>RUNNING – the batch is running. Loaded samples in the batch are being processed.</p> <p>COMPLETED – all samples in the batch have been processed. If the elution rack will not be used for collection of eluates in further batches, the elution rack can be removed from the “Eluate” drawer and the result file can be downloaded.</p> <p>PAUSED – processing of the batch has been paused. The samples of the processed batch will be flagged as “unclear”.</p> <p>STOPPED – the batch has been stopped either by the user or due to an error. The samples are lost and cannot be manually processed.</p>
Batch ID	The assigned batch ID is shown here.
Protocol	If a batch is queued, the name of the protocol to be run is displayed.
Destination	The corresponding elution slot is displayed. For batch processing, it is necessary to assign an elution rack to the selected elution slot in the “Eluate” drawer.
Time	The actual elapsed time is displayed.

Progress bar

The progress bar displays information about the protocol being run. Each protocol is made up of steps such as lyse, bind, wash and elute. The progress bar displays information about the actual

step of the protocol being performed and also the total progress in percent for the whole protocol. Additionally, the progress bar displays the remaining run time in real-time.

processing Lyse: 12% Remaining: 00:01h Endtime: 13:47

Note: Run time estimation is based on stored run times of previous, valid runs with identical settings.

3.8.3 Sample Preparation tab – Sample Preparation/Sample View screen

Information is displayed about samples that will be processed, are currently being processed, or have been processed.

Note: A warning symbol appears in the **Sample View** screen if at least one sample is flagged as “invalid” (see Section 2.8 for more information).

Bl	Src	Pos	Labware	Sample ID	Assay Control Set	Status	Dest	Pos
1	1	1	BD#352051 FalconPP 17x100	1001	Virus 1000	invalid	1	(1..16)
1	1	2	BD#352051 FalconPP 17x100	1002	Virus 1000	valid	1	(1..16)
1	1	3	BD#352051 FalconPP 17x100	1003	Virus 1000	valid	1	(1..16)
1	1	4	BD#352051 FalconPP 17x100	1004	Virus 1000	valid	1	(1..16)
1	1	5	BD#352051 FalconPP 17x100	1005	Virus 1000	valid	1	(1..16)
1	1	6	BD#352051 FalconPP 17x100	1006	Virus 1000	valid	1	(1..16)
1	1	7	BD#352051 FalconPP 17x100	1007	Virus 1000	valid	1	(1..16)
1	1	8	BD#352051 FalconPP 17x100	1008	Virus 1000	valid	1	(1..16)
1	1	9	BD#352051 FalconPP 17x100	1009	Virus 1000	valid	1	(1..16)
1	1	10	BD#352051 FalconPP 17x100	1010	Virus 1000	valid	1	(1..16)
1	1	11	BD#352051 FalconPP 17x100	1011	Virus 1000	valid	1	(1..16)
1	1	12	BD#352051 FalconPP 17x100	1012	Virus 1000	valid	1	(1..16)
1	1	13	BD#352051 FalconPP 17x100	1013	Virus 1000	valid	1	(1..16)
1	1	14	BD#352051	...	Virus	...	1	(1..16)

Sample View screen.

Command bar

The command bar is as described in Section 3.8.2, page 115.

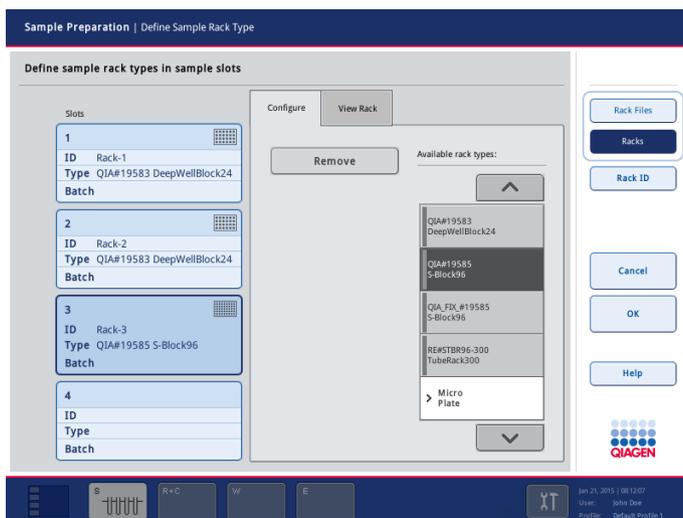
Dialog panel

Information about the samples is provided in tabular format. When the elution rack is removed, all information about the samples is automatically removed from the table. If eluates from samples processed in earlier runs have not been removed from the “Eluate” drawer, information about these samples remains in the table.

Bf.	<p>Number of the batch. Batches are numbered consecutively in the order in which they have been defined, starting with batch 1. The batch numbering is therefore independent of the corresponding sample slots.</p> <p>Batch numbering starts again at 1 if all batches and eluates are removed from the QIASymphony SP, or after batch 99. In the latter case, a batch number will not be reused if the elution plate of the batch has not yet been removed.</p>
Src.	The sample slot number.
Pos.	The position in the tube carrier or the sample rack is displayed.
Labware	The labware used is shown.
Sample ID	ID (bar code, virtual bar code or Position_BatchID) is shown.
Assay Control Set	The name of the assigned Assay Control Set is displayed.
Vol. In	The input volume, which is defined in the protocol, is displayed.
Vol. Out	The elution volume is displayed.
Status	<p>The sample state is displayed. There are 3 possible sample states: "valid", "unclear" and "invalid".</p> <p>The state of individual samples is also shown by the text color in the table.</p> <ul style="list-style-type: none"> ● Light green – "valid" ● Light pink – "unclear" ● Pink – "invalid"
Dest.	The elution slot that is used by the batch.
Pos.	The elution section of the corresponding elution slot is displayed.
Protocol	The name of the protocol used by the batch is displayed.

3.8.4 Sample Preparation/Define Sample Rack Type screen

When the “S” button is pressed, or when a plate carrier is inserted, the following screen appears.



Sample Preparation/Define Sample Rack Type screen.

Command bar



Displays the list of available rack files in the **Configure** tab.



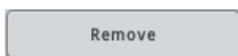
Displays the list of available rack types in the **Configure** tab.



Press this button and the **Keyboard** screen appears. This enables the user to enter a sample rack ID, if no sample rack was detected. The ID will be displayed in the sample slot button.

Note: Instead of manually entering the ID, you can also use the handheld bar code scanner to scan the ID.

Dialog panel



Virtually removes an elution rack in the software.

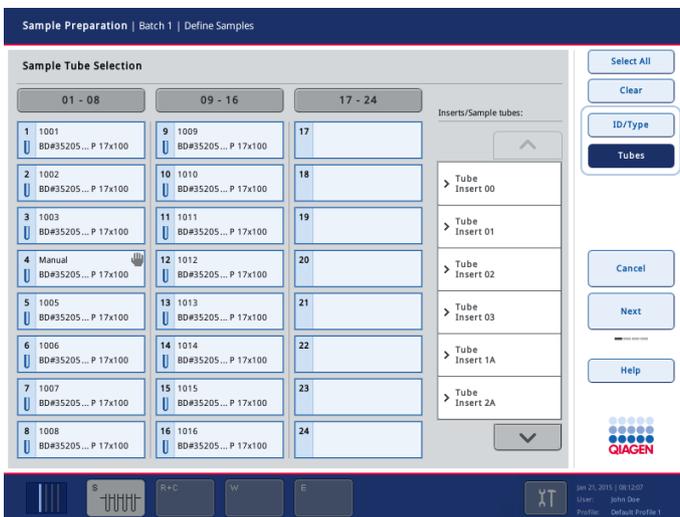
The elution rack can then be physically removed from the QIA Symphony SP.

3.8.5 Sample Preparation/Batch X/Define Samples screen (tube carrier)

This screen displays information about all 24 positions of the tube carrier.

It enables the user to edit sample tube information and also to manually correct any bar code reading errors (only if the software configuration of the QIAAsymphony SP allows sample IDs to be edited).

Positions where errors are detected (e.g., unknown bar codes or duplicate bar codes) become yellow. The information below refers to samples loaded in the tube carrier. For information about samples loaded in the plate carrier, see Section 3.8.6.



Sample Preparation/Batch X/Define Samples screen (Tubes mode).



Sample Preparation/Batch X/Define Samples screen (ID/Type mode).

Command bar (Tubes mode)

A light blue button with rounded corners and a thin border, containing the text "Select All" in a dark blue font.

Enables the user to select all samples.

A dark blue button with rounded corners and a thin border, containing the text "ID/Type" in a light blue font.

Allows the user to edit sample IDs and sample types. If sample tube types can be selected, the button is active. When the button is pressed, the dialog switches to **ID/Type** mode which is described below.

Edit Sample ID screen appears.

This button can be selected even when sample IDs cannot be edited.

A light blue button with rounded corners and a thin border, containing the text "Tubes" in a dark blue font.

Enables the user to change the tube type. The button is inactive if sample tubes cannot be edited by pressing the sample position buttons in the dialog panel.

The button is active if the sample ID can be edited when the sample position button is pressed.

Note: Before a tube type can be assigned or a sample ID edited, the user must first select the position in which the information should be edited.

Command bar (ID/Type mode)

A light blue button with rounded corners and a thin border, containing the text "Select All" in a dark blue font.

Enables the user to select all samples.

A dark blue button with rounded corners and a thin border, containing the text "ID/Type" in a light blue font.

Select to view and edit sample IDs and sample types.

When pressed, the dialog switches to **ID/Type** mode.

Note: Before a tube type or ID can be assigned, the user must select the position in which the information should be edited. For assigning multiple sample types at the same time, it is possible to select more than one position.

A light blue button with rounded corners and a thin border, containing the text "Tubes" in a dark blue font.

Select to view and change the tube type.

When pressed, the dialog switches to **Tubes** mode.

Note: Before a tube type can be assigned, the user must first select the position in which the information should be edited. It is possible to select more than one position to assign multiple tub types at the same time.

A light blue button with rounded corners and a thin border, containing the text "Clear" in a dark blue font.

Enables the user to clear positions and remove sample ID and sample type.

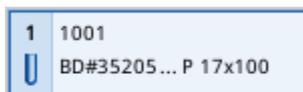
Dialog panel

- 01 – 08 Press to select sample positions 1–8.
- 09 – 16 Press to select sample positions 9–16.
- 17 – 24 Press to select sample positions 17–24.

Individual
sample buttons
(1–24)

Tubes mode:

Each sample button displays information about the sample ID (bar code or virtual bar code) and the detected/assigned tube type.



Individual positions can be selected by pressing the appropriate sample button. If the **Sample ID** button is then pressed, the **Keyboard** screen appears. This enables the user to enter a sample ID.

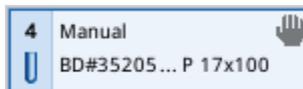
Note: The button becomes yellow if a bar code reading error or a duplicate bar code is detected.



The bar code symbol in the example above shows that the insert bar code was not read. If the bar code appears in the sample ID position, this signifies that the tube bar code was not read.

If the QIA Symphony SP detects duplicate bar codes (the software configuration of your QIA Symphony SP may not allow duplicate bar codes in one run) the positions with the same bar codes become yellow. A bar code symbol, which denotes a reading error, is not displayed.

If sample information was entered manually, a hand symbol is displayed at the top right of the sample position button.



Individual
sample buttons
(1–24)

ID/Type mode:

Each sample button displays information about the sample ID (bar code or virtual bar code) and the detected/assigned sample type.

1	1001	Sample
2	1002	EC+
3	1003	EC-

Inserts/Sample tubes list

If the dialog panel is in **Tubes** mode, a list of inserts and sample tubes is displayed. The inserts are listed first and after an insert has been selected, the user can select a tube type from the list. To change the insert or tube type, follow the steps below.

1. Select the position or positions to be corrected.
2. Press the appropriate tube insert item in the list.

The list shows all available sample tube types that can be used with the selected insert.

3. Assign a tube type by selecting it from the list.

Note: If sample tubes cannot be edited the following error message is displayed. Press **OK** to continue.

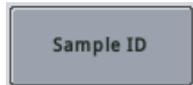


Note: If the **ID/Type** mode is active, the **Inserts/Sample tubes** list is not displayed.

Note: Files for new types of labware can be downloaded at www.qiagen.com/goto/QIASymphony.

ID and sample type editing

If the dialog panel is in **ID/Type** mode, buttons for editing ID and sample type are displayed.

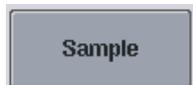


Allows the user to edit sample IDs. When the button is pressed, the **Sample ID** screen appears.

The button is inactive if the software configuration of your QIAAsymphony SP does not allow sample IDs to be edited.



Allows the user to assign a virtual ID to selected samples without bar codes. The virtual ID is displayed as: "_PositionNumber on Tube Carrier_Unique Batch ID".



When pressed, the sample type of the selected samples is set to "Sample".



When pressed, the sample type of the selected samples is set to "EC+" (positive extraction control).



When the button is pressed, the sample type of the selected samples is set to "EC-" (negative extraction control).

Note: If the QIAAsymphony SP is connected to a QIAAsymphony AS, pay attention to this note. The sample type determines the further processing on the QIAAsymphony AS. The sample type set here cannot be changed using the QIAAsymphony AS user interface, therefore ensure that the correct sample type is defined.

3.8.6 Sample Preparation/Batch X/Define Samples screen (plate carrier)

This screen displays information about all positions of the plate carrier. It enables the user to edit sample IDs.

For information about samples loaded in the tube carrier, see Section 3.8.5.



Sample Preparation/Batch X/Define Samples screen.

Command bar



Enables the user to select all samples.



Enables the user to go back to the **Sample Preparation/Define Sample Rack Type** screen (see Section 3.8.4).

Dialog panel

- 01 – 08 Press to select sample positions 1–8.
- 09 – 16 Press to select sample positions 9–16.
- 17 – 24 Press to select sample positions 17–24.

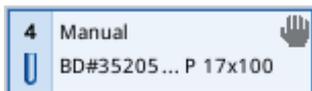
Individual sample buttons (1–24) Each sample button displays information about the sample ID (manually entered ID or position_batch ID e.g., 2000) and sample type.



Individual positions can be selected by pressing the appropriate sample button.

Note: The button becomes yellow if a duplicate sample ID is detected.

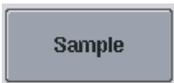
If the sample ID was entered manually, a hand symbol is displayed at the top right of the sample position button.





Allows the user to edit sample IDs. When pressed, the **Edit Sample ID** screen appears.

The button is inactive if the software configuration of the QIASymphony SP does not allow sample IDs to be edited.



When pressed, the sample type of the selected samples is set to "Sample".



When pressed, the sample type of the selected samples is set to "EC+" (positive extraction control).



When pressed, the sample type of the selected samples is set to "EC-" (negative extraction control).

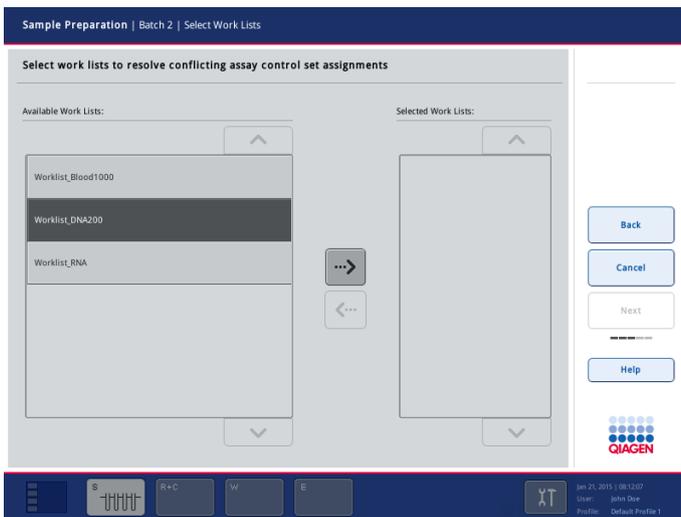
3.8.7 Sample Preparation/Batch X/Select Work Lists screen

The **Sample Preparation/Batch X/Select Work Lists** screen enables the user to select work lists from the group of mutually exclusive work lists.

Note: This screen is only displayed if mutually exclusive work lists are found during the batch definition workflow.

Note: If the sequence recognized in the sample carrier is not the same as the sequence of samples in the work list, a warning might appear (see parameter "Warn, if sample sequence differs from work list entry sequence?" in Section 6.2.2 of the *General Description*).

Depending on the configuration of the QIASymphony SP, a batch does not have to be defined by a single work list. If required, multiple work lists can be selected, as long as the selected work lists are compatible.



Dialog panel



Moves a selected work list from the **Available Work Lists** panel to the **Selected Work Lists** panel.



Moves a selected work list from the **Selected Work Lists** panel to the **Available Work Lists** panel.

Available Work Lists

The list of available work lists with entries for the samples of the batch is displayed. To select a work list, proceed as follows:

1. Press the corresponding button in the list of available work lists.
2. Press the  button.

Note: When the first work list is selected, the list of work lists in the **Available Work Lists** panel only includes work lists that are compatible with the selected work list.

Selected Work Lists

The **Selected Work Lists** panel displays a list of selected work lists. To deselect a work list, proceed as follows:

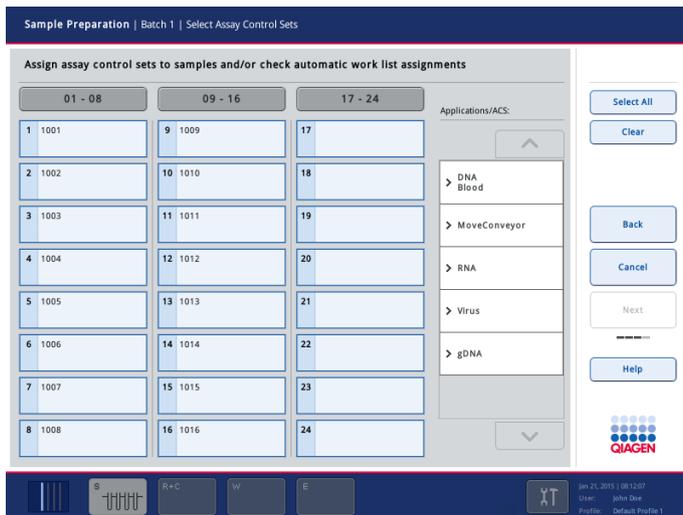
1. Press the corresponding button in the list of selected work lists.
2. Press the  button.

3.8.8 Sample Preparation/Batch X/Select Assay Control Sets screen

The **Sample Preparation/Batch X/Select Assay Control Sets** screen enables the user to assign an Assay Control Set to each sample in the batch.

The same Assay Control Set does not have to be assigned to all samples; if required, a different Assay Control Set can be assigned to each sample in the batch as long as the Assay Control Sets use the same protocol.

Note: If a work list has been assigned, the Assay Control Set is automatically assigned to samples with a sample ID that matches the sample ID defined in the work list. Depending on the configuration setting, it might not be possible to change this automatic assignment.



Sample Preparation/Batch X/Select Assay Control Sets screen.

Command bar



Enables the user to select all samples.



Clears Assay Control Sets from assigned positions.



Press the **Next** button to save changes and proceed to the **Sample Preparation/Elution Slot & Volume** screen. This button is active if Assay Control Sets have been assigned to the selected positions.

Note: If an Assay Control Set was not assigned to all positions, a message will be displayed. Make sure to assign an Assay Control Set to each sample within the batch.

Dialog panel

- 01 – 08 Press to select sample positions 1–8 so that the same Assay Control Set can be assigned to these positions.
- 09 – 16 Press to select sample positions 9–16 so that the same Assay Control Set can be assigned to these positions.
- 17 – 24 Press to select sample positions 17–24 so that the same Assay Control Set can be assigned to these positions.
- Individual sample buttons (1–24) Press individual sample buttons to select the position that an Assay Control Set should be assigned to. A sample that has been automatically assigned an Assay Control Set by the work list is marked with the indicator .

Applications/ACS list

The list of available applications is displayed. To select an Assay Control Set, follow the steps below.

1. Select the application.

A list of available Assay Control Sets that can be run with the selected application is displayed.

2. Select all samples to be processed with a particular Assay Control Set.
3. Select the Assay Control Set to assign it to the selected position(s).

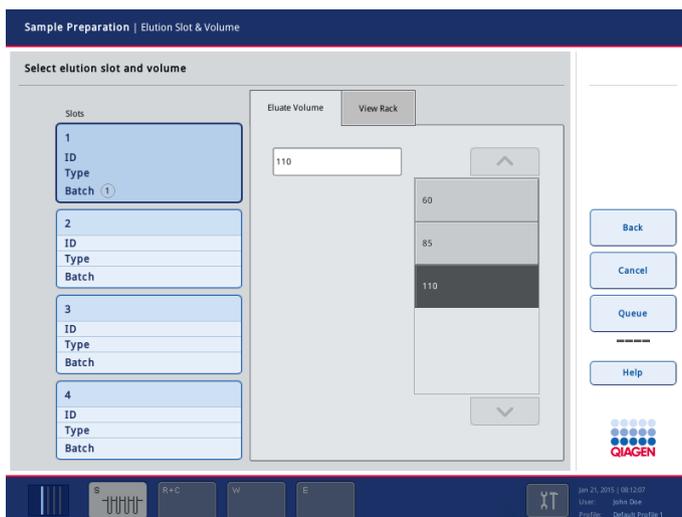
Note: When the first Assay Control Set is selected, the list of available Assay Control Sets displayed only includes Assay Control Sets that use the same protocol and the same elution volume.

If the batch is defined when a run is being performed, the **Applications/ACS** list only displays Assay Control Sets that are compatible with the loaded reagent cartridges.

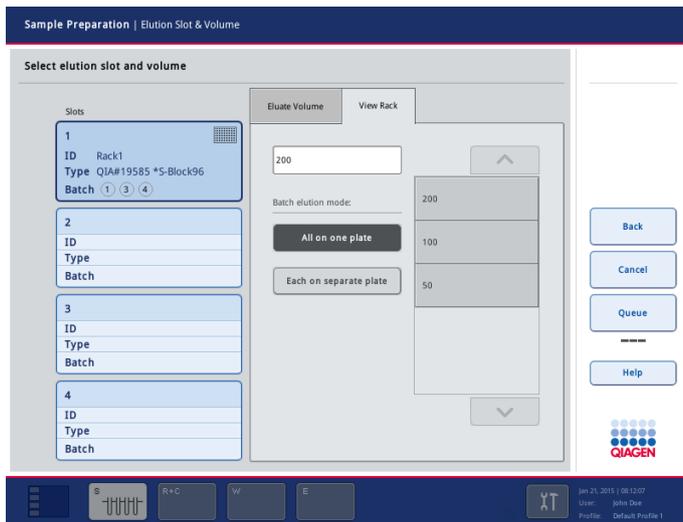
3.8.9 Sample Preparation/Elution Slot & Volume screen

The version of the screen displayed depends on whether a single batch was defined or whether the batch was defined using the **Fast Setup** button. This screen allows the user to select an elution slot for the defined batch.

With some Assay Control Sets, the user has the option of selecting different elution volumes.



Version of the screen displayed if a single batch was defined.



Version of the screen displayed if Fast Setup button was used.

Command bar



Queues the batch(es) for which elution slot(s) and elution volume have already been defined. When the **Run** button is pressed, queued batches will be processed within this run.

The **Queue** button is active if an elution slot has been assigned for the batch.



This button is only visible in the Wizard.

Completes the Wizard. This button is only visible when the last batch has been defined and if no internal control is required.

Dialog panel

Slot buttons

1–4



Press to select an elution slot for the batch that is defined.

If an elution rack has already been assigned to this slot, the ID of the elution rack and the elution rack type are displayed.

After selecting the corresponding elution slot, the batch number (1–99) is displayed in the information field next to the slot button.

If batches were defined using the **Fast Setup** the batch elution mode must be defined.

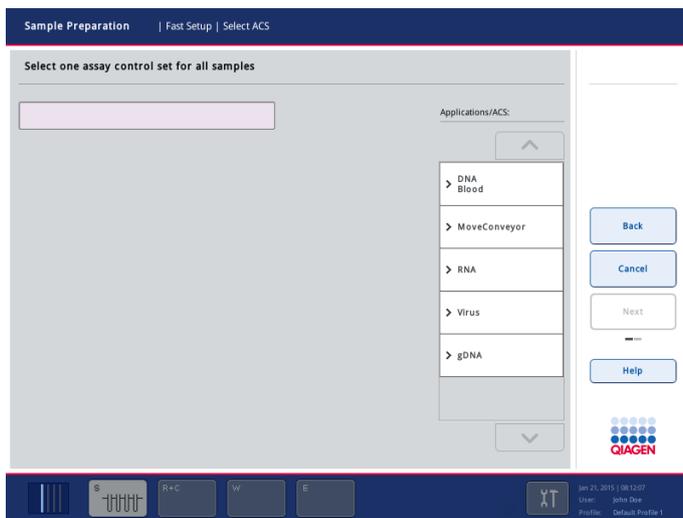
If the batch is being defined while other batches are being processed, slot buttons are only active if an elution rack has already been assigned to the slot.

- Eluate Volume** The default elution volume defined in the Assay Control Set is displayed here. If the default elution volume was edited by the user, the new elution volume will be displayed in this field.
- Batch elution mode** This is only displayed if batches were defined using the **Fast Setup** button. The user can select whether all eluates are transferred to the same elution rack or whether each batch should be transferred to a separate elution rack.
- Elution volume list Available elution volumes are displayed in a list. To edit the default elution volume of the Assay Control Set, select the required elution volume from the list.

3.8.10 Sample Preparation/Fast Setup/Select ACS screen

This screen enables the user to select and assign one Assay Control Set to all loaded batches.

The screen is accessed by pressing the Fast Setup button.

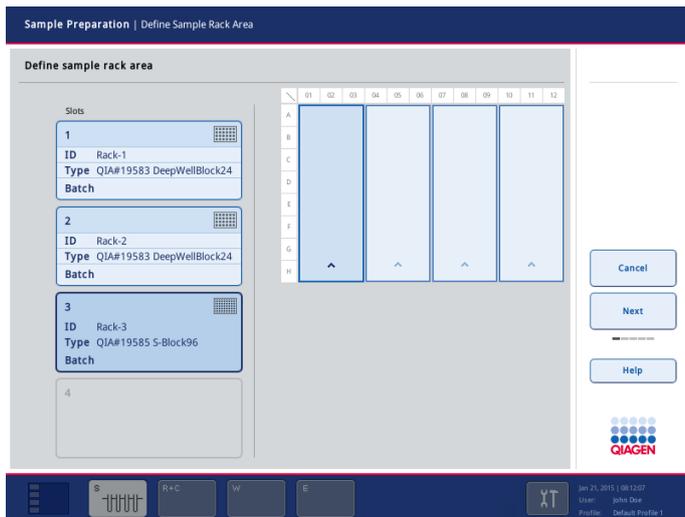


Dialog panel

- Assay Control Set text field** The name of the selected Assay Control Set is displayed in this text field.
- Applications/ACS** All available Assay Control Sets are displayed in this list. The first time the list is accessed, applications are shown. After the user selects an application, Assay Control Sets available for the selected application are displayed.

3.8.11 Sample Preparation/Define Sample Rack Area screen

This screen enables the user to select the rack area for the batch to be defined, if sample rack contains more than 24 positions (e.g., 96 wells).



Sample Preparation/Define Sample Rack Area screen.

Command bar



Press to proceed to the **Sample Preparation/Batch X** screen. The **Next** button becomes active if a sample slot containing a 24-well rack is selected or if a sample slot containing a 96-well rack has half/quarter of the positions selected.

Dialog panel

Sample slot buttons 1–4 Press the appropriate button to select the sample slot. Information about the sample rack ID (if available) and the assigned sample rack type is displayed next to the slot button.

View of the sample rack The sample rack is displayed.

View of the sample rack

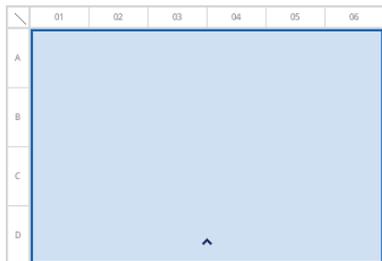
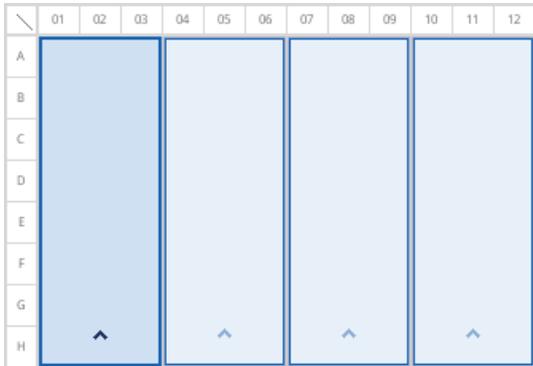


Plate view of a 24-well rack

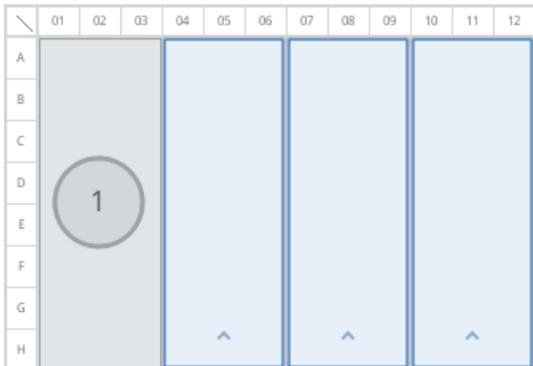


Plate view of a 96-well rack

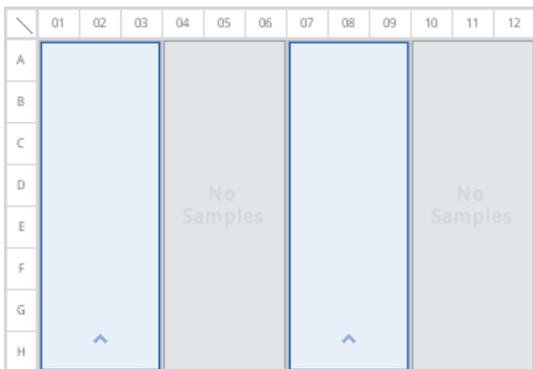
Note: If the selected sample slot contains a sample rack with 96 wells, the quarter in which the samples are located must be selected by pressing the corresponding quarter in the plate view.



Samples are in the first quarter of the 96-well rack.



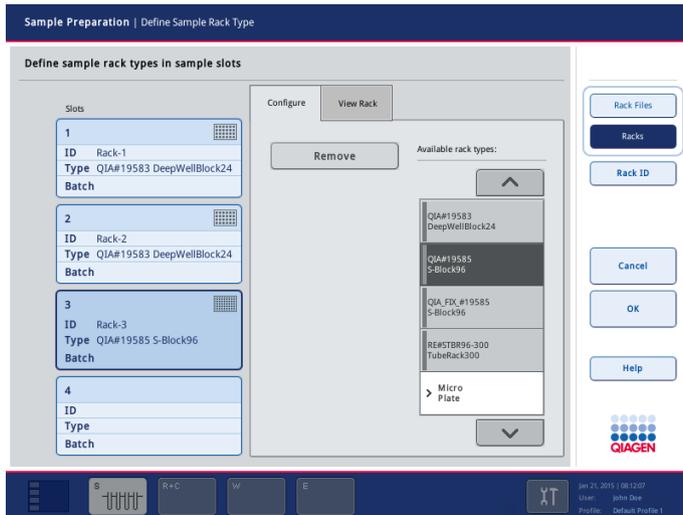
The first quarter of the 96-well rack has been defined for use in a different batch.



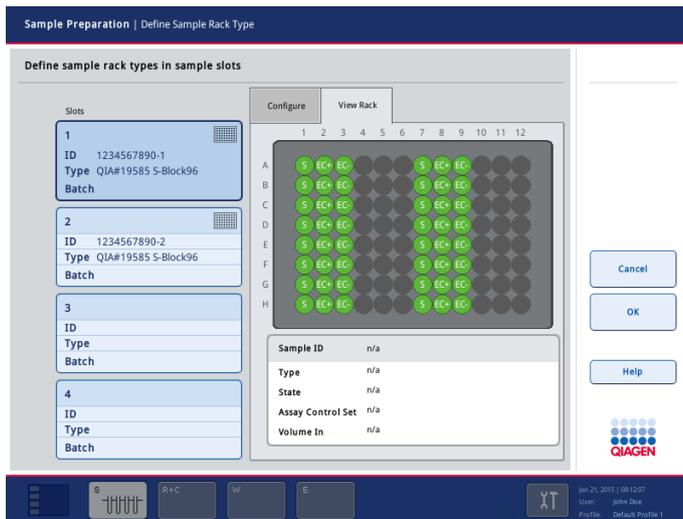
If a rack file is assigned, only areas with samples can be selected.

3.8.12 Sample Preparation/Define Sample Rack Type screen

This screen enables the user to select the sample slot for the batch to be defined.



Sample Preparation/Define Sample Rack Type screen (Configure tab).

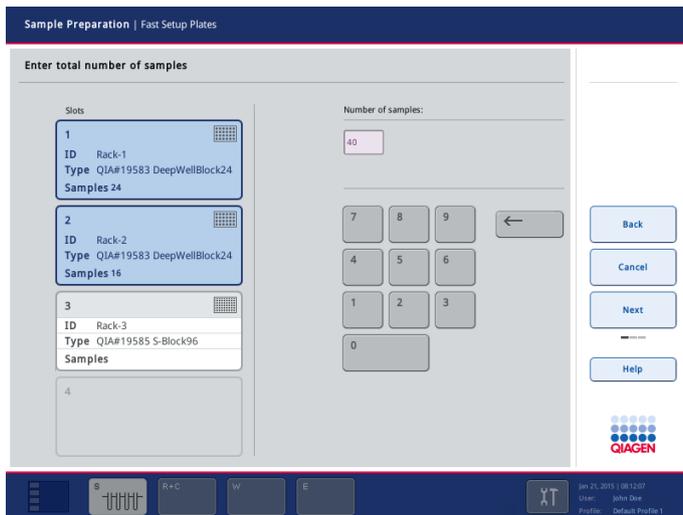


Sample Preparation/Define Sample Rack Type screen (View Rack tab).

3.8.13 Sample Preparation/Fast Setup Plates screen

If sample batches are to be defined using the **Fast Setup** button and samples are loaded in the plate carrier, the total number of samples for the run has to be defined.

This information is entered in the **Sample Preparation/Fast Setup Plates** screen.



Command bar



Press to proceed to the **Sample Preparation/Assign All** screen. The **Next** button becomes active if the total number of samples is available.

Dialog panel

Sample slot buttons 1–4

The sample slot buttons are inactive. After the total number of samples to be processed per run has been entered, the number of samples per rack is automatically shown. Information about the sample rack ID (if available) and the assigned sample rack type is displayed in the information field next to the slot button.

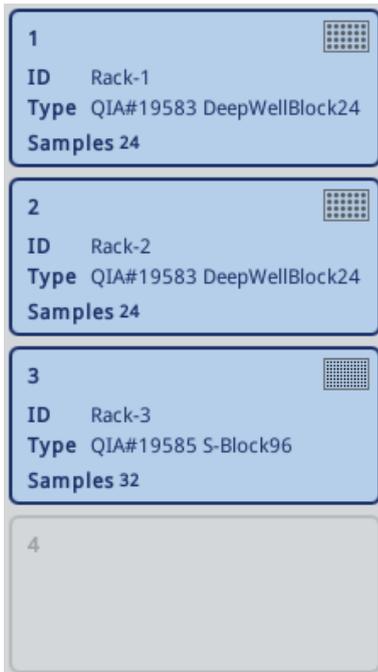
Note: All positions are used as positions containing a sample. The samples are automatically filled from top to bottom slot (1–4).

Number of samples

The **Number of samples** field displays the number of samples and cannot be directly edited by the user. The number of samples can be edited using the number keypad. Values from 1–96 are allowed.

Number keypad

If a button is pressed, the corresponding number appears in the **Number of samples** field. If the back-space button is pressed, this deletes the last digit of the displayed number.



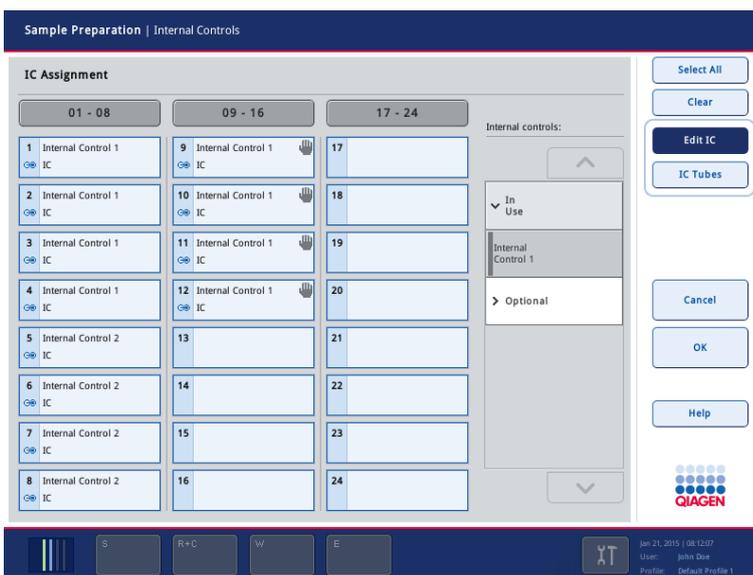
The number of samples is automatically displayed in the information field.



The number keyboard enables the user to edit the number of samples.

3.8.14 Sample Preparation/Internal Controls screen

When the IC button is pressed, the **Sample Preparation/Internal Controls** screen appears.



Sample Preparation/Internal Controls screen.

Command bar



Selects all internal control positions.



Clears all entered information about internal controls.



When the **Edit IC** button is pressed, the **Internal controls** list appears. This enables the user to assign the correct internal control to the selected position.



Press the **IC Tubes** button and the **Inserts/Tube types** list appears. This enables the user to assign the correct tube type to the position.



This button is only shown as part of the Wizard.

Press to proceed to the **Wizard/Batch X** screen. The **Next** button becomes active if a sample slot containing a 24-well rack is selected or if a sample slot containing a 96-well rack has half/quarter of the positions selected.



This button is only shown as part of the Wizard.

Completes the Wizard. This button is only visible when the last batch has been defined and if no internal control is required.

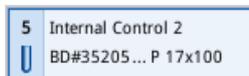
Dialog panel

01 – 08 Press to select sample positions 1–8.

09 – 16 Press to select sample positions 9–16.

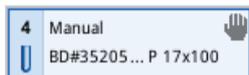
17 – 24 Press to select sample positions 17–24.

Individual sample buttons (1–24) Press individual position buttons to edit the internal control or the tube type. Each button displays information about the internal control and tube type.



If an error occurred during bar code reading, the bar code symbol is displayed and the position button becomes yellow.

If information was manually entered, a hand symbol is displayed at the top right corner of the button.



Internal controls list

If the **Edit IC** button is pressed, the dialog panel displays the **Internal controls** list. The available internal controls are sorted into categories. Depending on the status of the batches and the internal controls automatically detected, 3 different categories may be displayed.

- **Optional** – All internal controls known to the instrument that are not categorized as **Required** or **In use** appear under **Optional**.
- **Required** – Batch(es) is/are queued. The instrument knows which internal controls are required to run the queued batches. The required internal controls are not detected automatically and have to be assigned to the detected positions.
- **In use** – The instrument either has automatically detected an internal control or it was manually assigned to a particular position in the fifth tube carrier. These internal controls are listed under the category **In use**.

Inserts/Tube types list

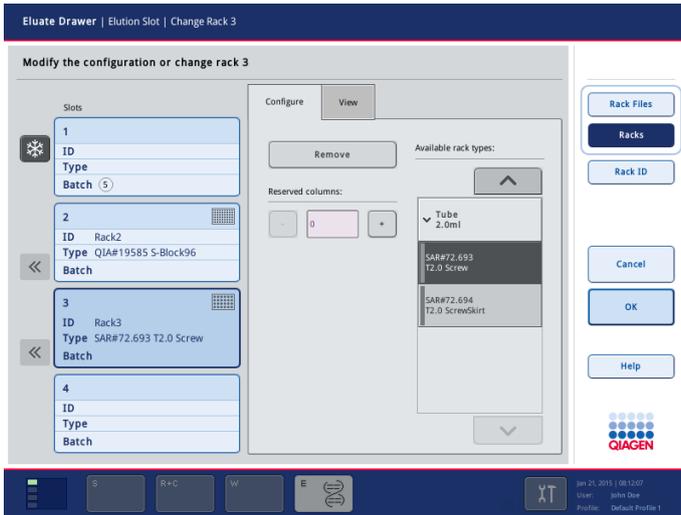
If the **IC Tube** button is pressed, the dialog panel displays the **Inserts/Tube types** list. To assign the correct tube type:

- Select the position(s).
- Select the appropriate insert from the list. A list of available tube types for that insert will be displayed.
Note: If the insert bar code has been read but you want to select another tube type, the list shows the available tube types for that insert.
- Select the correct tube type from the list.

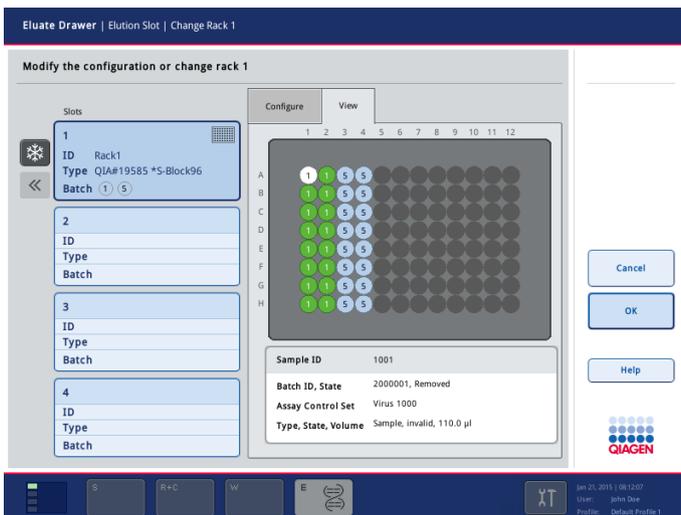
3.8.15 Eluate Drawer/Elution Slot screen

If the “Eluate” drawer is opened, the **Eluate Drawer/Elution Slot** screen appears. If the “Eluate” drawer is empty and an elution rack has not yet been assigned, the information fields and the tabs are empty.

Close the “Eluate” drawer to proceed to the **Eluate Drawer/Elution Slot/Configure Racks** screen.



Eluate Drawer/Elution Slot screen (Configure tab).



Eluate Drawer/Elution Slot screen (View tab).

Command bar



If the “Eluate” drawer is open, a message appears that tells the user to close the “Eluate” drawer. If the **Cancel** button is pressed after the “Eluate” drawer has been closed, the screen closes without saving the changes. An inventory scan of the “Eluate” drawer is performed to check the inventory of the “Eluate” drawer against the slot/rack assignment made in the **Sample Preparation/Elution Slot** screen.



If the “Eluate” drawer is open, a message appears that tells the user to close the drawer. If the **OK** button is pressed after the drawer has been closed, the changes are saved and the screen is closed. An inventory scan of the “Eluate” drawer is performed to check the inventory of the “Eluate” drawer against the slot/rack assignment made in the **Sample Preparation/Elution Slot** screen.

Dialog panel

Elution slot buttons 1–4

Select to enter the **Sample Preparation/Elution Slot/Add Elution Rack** screen or **Sample Preparation Elution Slot/ Remove Elution Rack** screen. The elution slot can be selected by either pressing the corresponding button or by scanning the corresponding bar code label on the elution slot in the “Eluate” drawer.

The following symbols can be displayed:

-  – The elution slot can be cooled.
-  – Cooling of elution slot suppressed.
-  – The elution rack can be removed.
-  – “Padlock” symbol, the elution rack cannot be removed since it is in use.

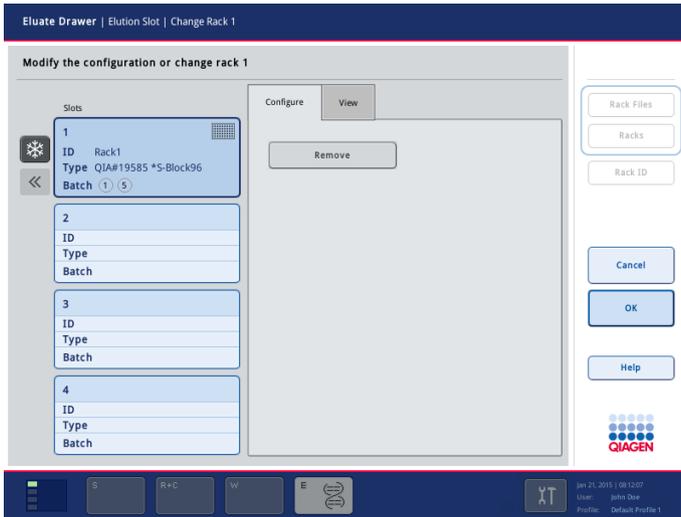


Press to switch cooling on “Elution slot 1” on or off. If the selected protocol requires elution rack cooling, do not switch cooling off.

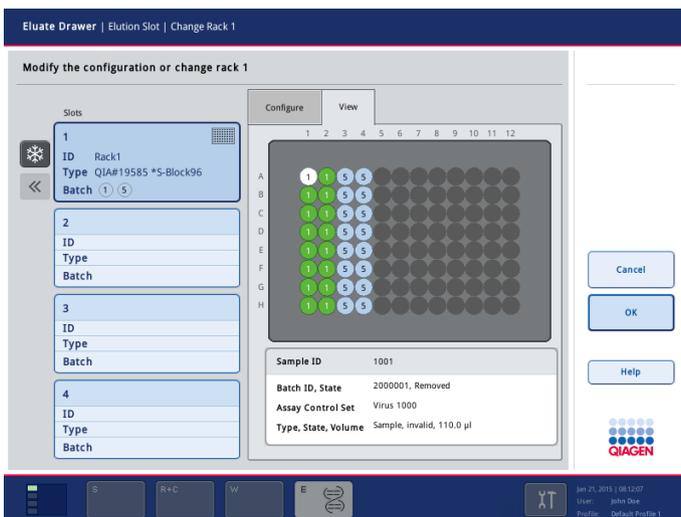
3.8.16 Eluate Drawer/Elution Slot/Change Rack X screen

If an elution slot is selected when the “Eluate” drawer is open, the **Eluate Drawer/Elution Slot/Change Rack X** screen is shown.

Close the “Eluate” drawer to show the **Eluate Drawer/Elution Slot/Configure Rack X** screen.



Eluate Drawer/Elution Slot/Change Rack X screen (Configure tab).



Eluate Drawer/Elution Slot/Change Rack X screen (View tab).

Command bar



Displays the **Available rack files** list in the **Configure** tab. This button is visible only if the **Configure** tab is selected.



Displays the **Available rack types** list in the **Configure** tab. This button is visible only if the **Configure** tab is selected.



Press to open the **Keyboard** screen. This enables the user to enter an elution rack ID. The ID will be displayed in the elution slot button.

Note: Instead of manually entering the ID, you can also use the handheld bar code scanner to scan the ID.

Note: If a rack file is found for the entered ID, it is assigned automatically.

Note: Depending on the configuration of the QIASymphony SP, you cannot select another elution rack ID other than the one prescribed by the work list assigned to an eluate slot. If your instrument is configured to restrict the elution rack accordingly, you have to use the elution rack ID that is given by the work list.



A message appears telling the user to close the "Eluate" drawer.

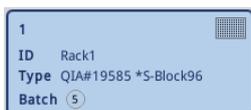


A message appears telling the user to close the "Eluate" drawer.

Note: If an elution rack was already assigned to the selected slot when the **Eluate Drawer/Elution Slot** screens were entered, the **Rack Files**, **Racks** and **Rack ID** buttons are inactive. If you want to place a different rack on the slot, remove the currently defined rack first by pressing the **Remove** button in the **Configure** tab.

Dialog panel

Elution slot buttons
1–4



Press to select the corresponding slot. The elution slot can be selected by either pressing the corresponding button or by scanning the corresponding bar code label on the elution slot in the "Eluate" drawer.

The following symbols can be displayed:

-  – The elution slot can be cooled.
-  – Cooling of elution slot suppressed.
-  – The elution rack can be removed.
-  – The elution rack cannot be removed since it is in use.

If the elution slot is to be used for a batch that has already been defined, additional information is displayed.

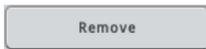
For batches that have already been defined, the batch number is also displayed.

The background color of the batch number indicates whether the batch is queued (blue), running (light green), or finished (green). Blocked batches are hatched.



Press the button to change whether cooling of the elution rack placed on “Elution slot 1” is suppressed. If the selected protocol requires elution rack cooling, cooling must not be suppressed.

Configure tab



This button is active if the << symbol is displayed for the selected slot. Press to remove the rack from the selected slot. Depending on the software configuration of your QIA Symphony SP, you may have to enter the ID of the elution rack to be removed. In this case, the **Keyboard** screen appears. Enter the ID of the elution rack either manually using the keyboard or using the handheld bar code scanner.

Reserved columns field This option is available if a rack type has been defined for the selected slot, the rack on the selected slot is empty and no batch defined for this elution slot is running. Columns on the left side of the rack can be marked as reserved for other purposes and will remain untouched by the batch processing. Use the “+” and “-” buttons to adjust the number of reserved columns.

Available rack files list

If **Rack Files** is selected, the list of all rack files that can be assigned to the elution slots is displayed. To assign a rack file, proceed as follows:

1. Select the slot by pressing the appropriate slot button.
2. If **Racks** is selected, press **Rack Files**.
3. Select the rack file by pressing the item in the list. Use the up and down arrows to scroll through the list.

Available rack types list

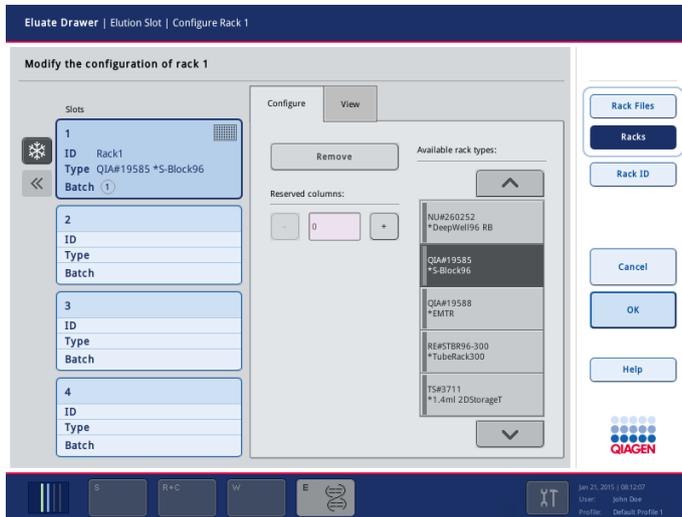
The list displays all available elution rack categories with rack types that are allowed for the selected elution slot. To select the rack type that will be placed onto the selected slot, proceed as follows:

1. Select the slot by pressing the appropriate slot button.
2. If **Rack Files** is selected, press **Racks**.
3. Select the elution rack category by pressing the item in the list. Use the up and down arrows to scroll through the list. A list of rack types in the selected category that can be assigned to the selected elution slot is displayed.
4. Select type of rack by pressing the item in the list. Use the up and down arrows to scroll through the list.

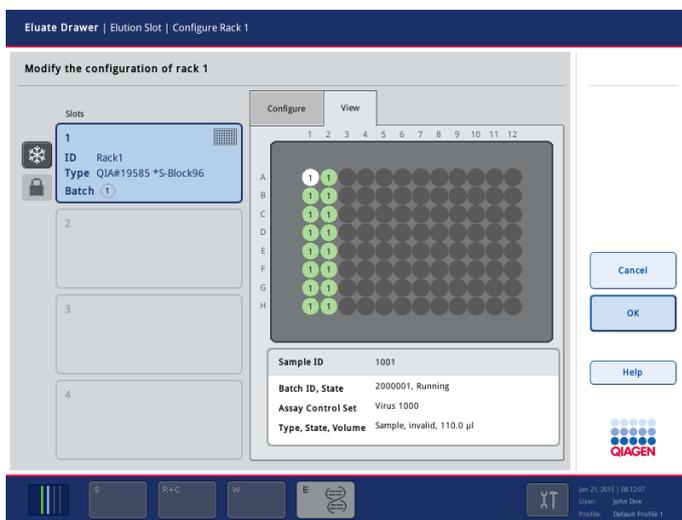
3.8.17 Eluate Drawer/Elution Slot/Configure Rack X screen

If an elution slot is selected when the “Eluate” drawer is closed, the **Eluate Drawer/Elution Slot/Configure Rack X** screen is shown.

Open the “Eluate” drawer to enter the **Eluate Drawer/Elution Slot/Change Rack X** screen.



Eluate Drawer/Elution Slot/Configure Rack X screen (Configure tab).

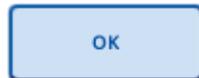


Eluate Drawer/Elution Slot/Configure Rack X screen (View tab).

Command bar



Closes the screen without saving the changes. An inventory scan of the “Eluate” drawer is performed to check the inventory of the “Eluate” drawer against the slot/rack assignment mode before the **Eluate Drawer/Elution Slot** screens were entered.



Saves the changes and closes the screen. An inventory scan of the “Eluate” drawer is performed to check the inventory of the “Eluate” drawer against the slot/rack assignment made in the **Eluate Drawer/Elution Slot/Change Rack X** screen.

Dialog panel

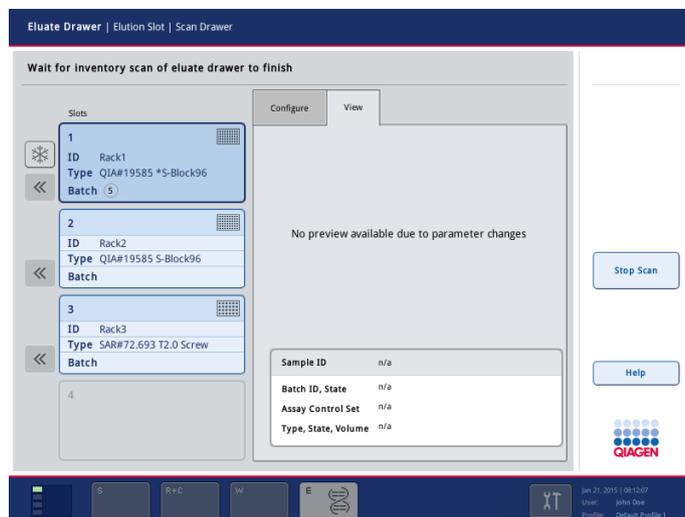
The dialog panel is the same as for the **Eluate Drawer/Elution Slot/Change Rack X** screen (Section 3.8.16, above) if the “Eluate” drawer has been opened since entering the **Eluate Drawer/Elution Slot** screens.

If the “Eluate” drawer has not been opened since entering the **Eluate Drawer/Elution Slot** screens, there are the following exceptions:

- The **Remove** button, the **Available rack types** list and the **Available rack files** list in the **Configure** tab are not available.
- The buttons that correspond to an elution slot without an assigned rack are disabled.

3.8.18 Eluate Drawer/Elution Slot/Scan Drawer screen

This screen is shown when a scan of the “Eluate” drawer is in progress.



Eluate Drawer/Elution Slot/Scan Drawer screen.

Command bar



This button is not active in this screen.



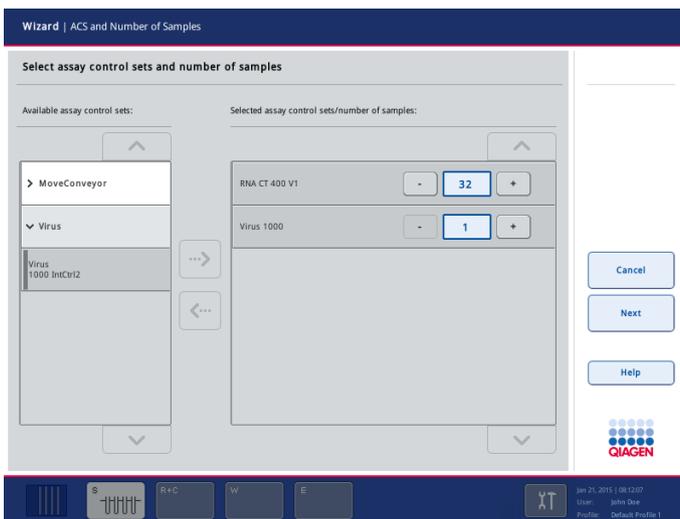
Stops the inventory scan of the "Eluate" drawer that is in progress, and then opens the previous screen.

Dialog panel

The dialog panel is the same as for the **Eluate Drawer/Elution Slot/Configure Rack X** screen (Section 3.8.17, above).

3.8.19 Wizard/ACS and Number of Samples screen

This screen appears when **Wizard** is pressed in the **Sample Preparation** screen.



Wizard/ACS and Number of Samples screen.

Dialog panel

Available assay control sets list

Lists the assay control sets that can be selected.

If an assay control set is selected, it is no longer shown in this list.

Note: It may be that a particular assay control set cannot be selected, and in this case, it is not displayed in the list.



Moves selected assay control set from the **Available assay control sets** list to the **Selected assay control sets/number of samples** panel.

This button is only enabled when an assay control set is selected in the **Available assay control sets** list.



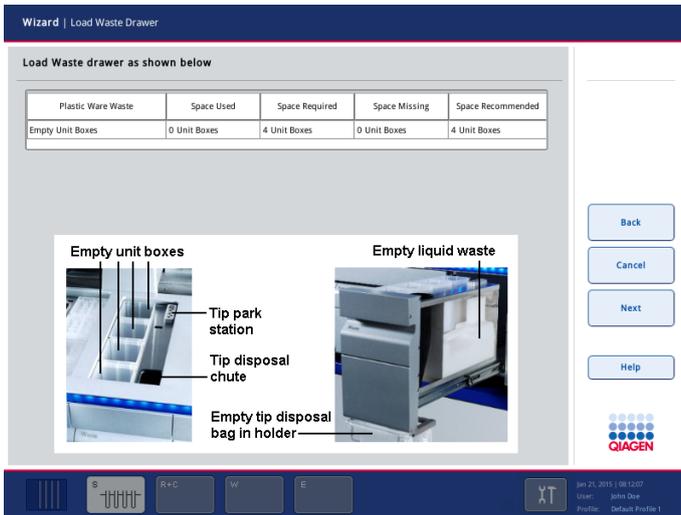
Moves assay control set from the **Selected assay control sets/number of samples** panel to the **Available assay control sets** list.

This button is only enabled when an assay control set is selected in the **Selected assay control sets/number of samples** list.

Selected assay control sets/number of samples panel Displays the selected assay control sets and the number of samples to be processed with each of these assay control sets. Use the “+” and “-” buttons to adjust the number of samples. Alternatively, press on the number to adjust it using the **Keyboard** screen.

3.8.20 Wizard/Load Waste Drawer screen

The **Wizard/Load Waste Drawer** screen displays loading instructions for the “Waste” drawer, including the required and available space for unit boxes. The recommended space is 4 empty unit boxes. When this screen is open, all drawers are locked except the “Waste” drawer.



Wizard/Load Waste Drawer screen.

Dialog panel

Plastic Ware Waste Indicates that empty unit boxes are needed for waste.

Space Used Indicates the number of unit boxes that have been used.

- Space Required** Indicates the number of unit boxes that are required for the run.
- Space Missing** Indicates the missing number of unit boxes for the run.
- Space Recommended** Indicates the recommended number of unit boxes for the run. This is always 4 unit boxes.

3.8.21 Wizard/Elution Slot screen

This screen is the same as the **Eluate Drawer/Elution Slot** screen. See Section 3.8.15.

3.8.22 Wizard/Elution Slot/Configure Rack X screen

This screen is the same as the **Eluate Drawer/Elution Slot/Configure Rack X** screen. See Section 3.8.17.

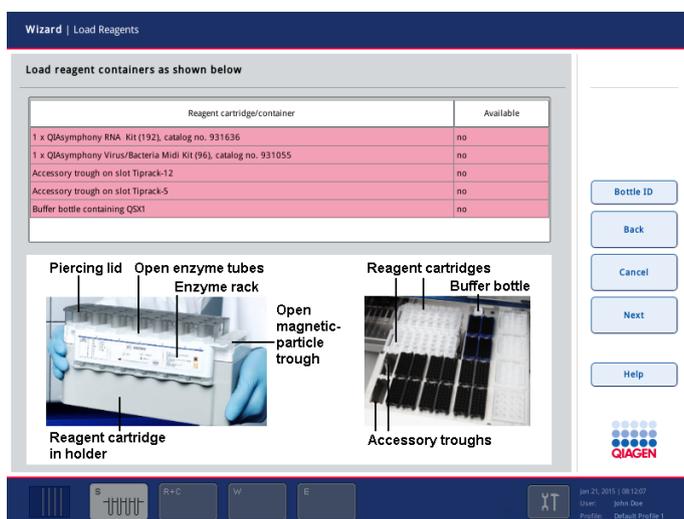
3.8.23 Wizard/Elution Slot/Change Rack X screen

This screen is the same as the **Eluate Drawer/Elution Slot/Change Rack X** screen. See Section 3.8.16.

3.8.24 Wizard/Load Reagents screen

The **Wizard/Load Reagents** screen lists the reagent cartridges and containers that must be loaded into the “Reagents and Consumables” drawer.

When this screen is open all drawers except the “Reagents and Consumables” drawer are locked.



Wizard/Load Reagents screen (example loading instructions).

Command bar



Opens the **Keyboard** screen. The bar code of an additional buffer bottle can be scanned or entered using the **Keyboard** screen.

Dialog panel

Reagent cartridge/ container

Lists the reagent cartridges and containers that must be loaded onto the worktable.

If the listed items are not available on the worktable they are highlighted red, and if they are already available on the worktable they are highlighted green.

Available

Indicates whether a reagent cartridge or container is available on the worktable.

3.8.25 Wizard/Load Consumables screen

The **Wizard/Load Consumables** screen summarizes which consumables are required for the run. It shows the number of available, required, missing and recommended 8-Rod Covers, sample prep cartridges and filter-tips.

Note: The number of required consumables is calculated by the software based on the previous inventory scan. If an inventory scan has not been performed, the software assumes that no consumables are available.

When this screen is open, all drawers except the "Reagents and Consumables" drawer are locked.

Wizard | Load Consumables

Load consumables as shown below

Cartridge/tips	Available	Required	Missing	Recommended
8-Rod covers	12 (1 Unit Box)	8 (1 Unit Box)	0 (0 Unit Boxes)	12 (1 Unit Box)
Sample prep cartridges	84 (3 Unit Boxes)	52 (2 Unit Boxes)	0 (0 Unit Boxes)	84 (3 Unit Boxes)
Tips 1500 µl	320 (10 Tip Racks)	352 (11 Tip Racks)	32 (1 Tip Rack)	384 (12 Tip Racks)
Tips 200 µl	192 (6 Tip Racks)	128 (4 Tip Racks)	0 (0 Tip Racks)	128 (4 Tip Racks)

Sample prep cartridges

Tip racks 8-Rod covers

Back
Cancel
Next
Help

QIAGEN

Jan 21, 2015 10:12:07
User: john Doe
Profile: Default Profile 1

Wizard/Load Consumables screen.

Dialog panel

- Cartridge/tips** Lists the consumable (i.e., 8-Rod Covers, sample prep cartridges, filter-tips).
- Available** Indicates the number of a particular consumable that is available on the worktable.
- Required** Indicates the total number of a particular consumable that is required for the run.
- Missing** Indicates the missing number of a particular consumable. This number must be loaded onto the worktable. Where consumables are missing, the row is highlighted red.
- Recommended** Indicates the recommended number of consumables that should be loaded onto the worktable.

3.8.26 Wizard/Sample Loading Summary screen

The **Wizard/Sample Loading Summary** screen lists the internal controls and the number of samples that are defined for the current run. The “Sample” slot and the plate area in which each batch/internal control should be loaded as indicated. Batches are processed in the order in which they appear in the table.

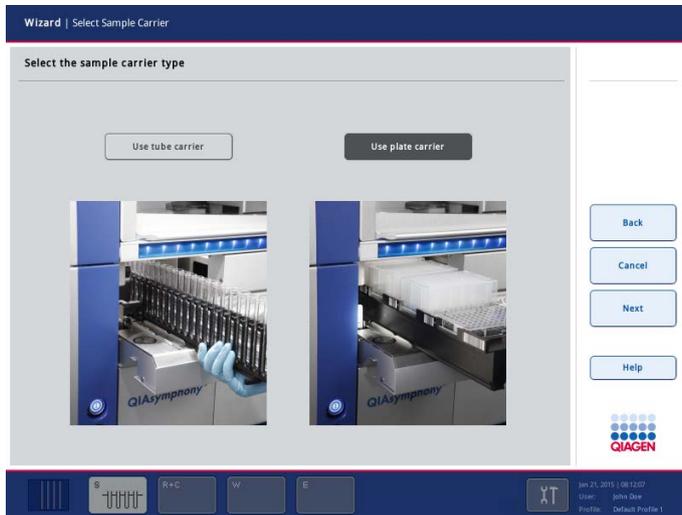
Sample rack slot/plate area	Assay control sets	Samples	Internal controls
1	RNA CT 400 V1	24	none
2	RNA CT 400 V1	8	none
3	Virus 1000, Virus 1000 IntCtrl2	24	Internal Control 1, Internal Control 2
4	Virus 1000 IntCtrl2	8	Internal Control 2

Wizard/Sample Loading Summary screen.

3.8.27 Wizard/Select Sample Carrier screen

The **Wizard/Select Sample Carrier** screen gives the user the option of loading samples on the tube carrier or the plate carrier.

Note: When internal controls are used, this screen is not shown because internal controls must be loaded in tube carriers.



Wizard/Select Sample Carrier screen.

Dialog panel



Selects the tube carrier for use with the current run.



Selects the plate carrier for use with the current run.

3.8.28 Wizard/Load Sample Tubes screen

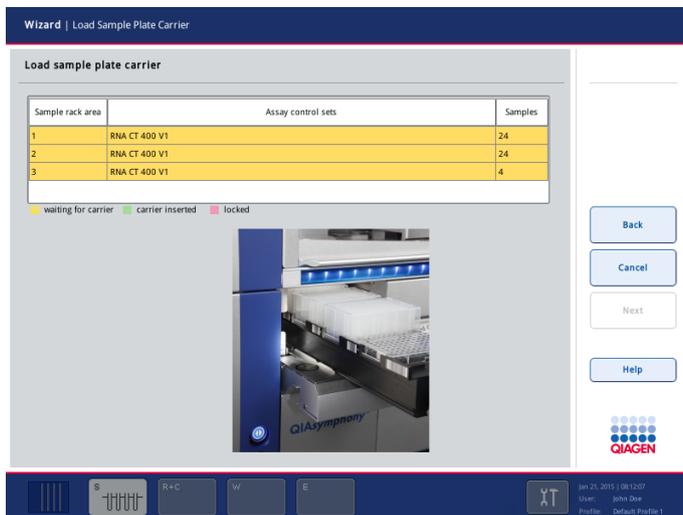
The **Wizard/Load Sample Tubes** screen indicates the slot numbers that sample tubes must be loaded into. The Assay Control Sets that these samples will be processed with are also indicated. Samples that have not yet been loaded are highlighted red, and samples that have already been loaded are highlighted green.



Wizard/Load Sample Tubes screen.

3.8.29 Wizard/Load Sample Plate Carrier screen

The **Wizard/Load Sample Plate Carrier** screen indicates the sample plate area that samples must be loaded into. The Assay Control Sets that these samples will be processed with are also indicated. Samples that have not yet been loaded are highlighted red, and samples that have already been loaded are highlighted green.



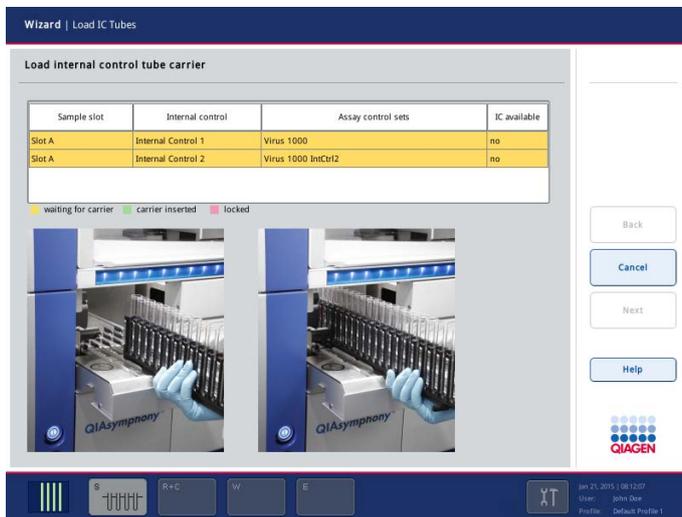
Wizard/Load Sample Plate Carrier screen.

3.8.30 Wizard/Load IC Tubes screen

If more than one internal control required for the current batches are missing, 2 screens for loading internal controls are shown.

The **Wizard/Load IC Tubes** screen displays the required and missing internal controls in a table. The background color of the table indicates the status of the internal control tube carrier:

- Green – Tube carrier loaded
- Red – Internal control tube carrier is currently in use by another batch
- Yellow – Tube carrier has not been loaded



Wizard/Load IC Tubes screen.

3.8.31 Wizard/Batch X/Select Work Lists screen

This screen is the same as the **Sample Preparation/Batch X/Select Work Lists** screen. See Section 3.8.7.

3.8.32 Wizard/Batch X/Select Assay Control Sets screen

This screen is the same as the **Sample Preparation/Batch X/Select Assay Control Sets** screen. See Section 3.8.8.

3.8.33 Wizard/Elution Slot & Volume screen

This screen is the same as the **Sample Preparation/Elution Slot & Volume** screen. See Section 3.8.9.

3.8.34 Wizard/Define Sample Rack Area screen

This screen is the same as the **Sample Preparation/Define Sample Rack Area** screen. See Section 3.8.11.

3.8.35 Wizard/Define Sample Rack Type screen

This screen is the same as the **Sample Preparation/Define Sample Rack Type** screen. See Section 3.8.12.

3.8.36 Wizard/Internal Controls screen

This screen is the same as the **Sample Preparation/Internal Controls** screen. See Section 3.8.14.

3.9 Configuration menu

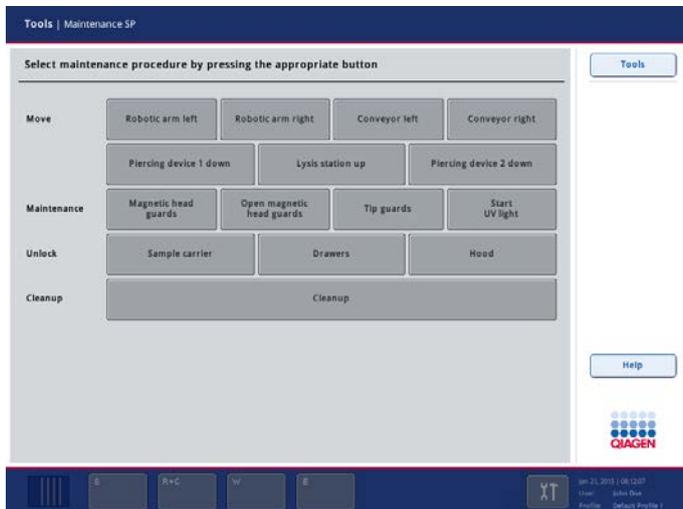
The Configuration menu enables the “Supervisor” to edit a range of configuration parameters. For more details, see Section 6 in the *General Description*.

3.10 Maintenance SP menu

The **Maintenance SP** menu enables components of the instrument to be used without running a protocol. Tools for performing routine maintenance procedures or for cleanup of the worktable are also available (e.g. **Maintenance Scheduler**). See Section 9 of the *General Description* for more details about maintenance procedures.

Important: Before using the **Cleanup** tool, refer to Section 2.23 of this manual. Only use these tools as indicated and according to the given instructions.

3.10.1 Maintenance SP screen



Maintenance SP screen.

Dialog panel

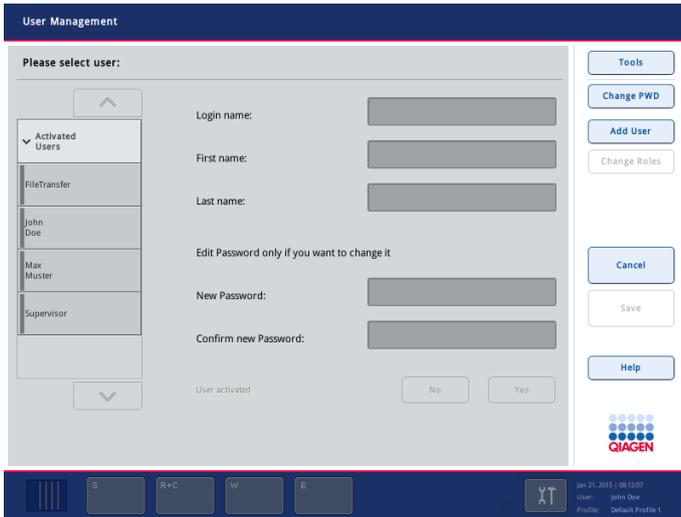
For more information about the **Maintenance SP** menu, refer to Section 2.22.

3.11 User Management menu

The **User Management** menu enables the “Supervisor” to create new users, to reset passwords, to change user roles and to activate/inactivate user accounts. This menu enables the “Operator” to change their password independently from the password expiration setting.

3.11.1 User Management/Please select user screen

The **User Management** screen enables the user to perform actions regarding user management. The exact screen that is displayed depends on the rights of the user logged in (“Supervisor” or “Operator”) and the screen appears with differences.



User Management/Please select user screen for the "Supervisor".

Command bar



Press to change your own password.



This option is only available to the "Supervisor". Press to create a new user account.



This option is only available to the "Supervisor". Press to change the role of an existing user.



Press to save the changes. This button is active if the changes have not been saved and inactive if no changes have been made.

Dialog panel

- Login name** Displays the login name of the user. This cannot be changed.
- First name** Active if a user account is selected in the list. Press to change the first name.
- Last name** Active if a user account is selected in the list. Press to change the last name.
- New Password** Active if a user account is selected in the list. Press to enter a new password.
- Confirm new Password** Active if a user account is selected in the list. Press to confirm the previously entered new password.

User activated Active if a user is selected who is not logged in.

Yes – User account is activated and is displayed in the login name list and can be selected for user log in.

No – User account is inactivated and is not displayed in the login name list. Users with inactivated user accounts cannot log in to the QIAsymphony SP.

Users list

The users list contains all known users. Users with activated user accounts are listed in the package **Activated Users**. Users with inactivated user accounts are listed in the package **Deactivated Users**. By default, the **Activated Users** package is selected. Press the corresponding item in the list to select the user account to be modified.

3.11.2 User Management/Please enter your new password screen

This screen allows the user to change an existing password. It appears if a user has pressed the **Change PWD** button in the **User Management/Please select user** or **User Management/Your user data** screen.

The screenshot shows a web interface for password management. The main area contains three text input fields for 'Old Password', 'New Password', and 'Confirm New Password'. To the right of these fields is a vertical column of buttons: 'Tools', 'Cancel', 'OK', and 'Help'. The QIAGEN logo is positioned below the 'Help' button. At the bottom of the screen, a dark blue navigation bar contains several icons and a status area on the right displaying the date and time 'Jan 21, 2015 08:12:07', the user name 'User: john Doe', and the profile 'Profile: Default Profile 1'.

User Management/Please enter your new password screen.

Dialog panel

Old Password Press to access the **Keyboard** screen to enter the old password.

New Password Press to access the **Keyboard** screen to enter the new password.

Confirm New Password Press to access the **Keyboard** screen to reenter the new password to confirm it.

3.11.3 Create User screen

This screen enables a new user account to be added. The screen appears if the “Supervisor” presses the **Add User** button in the **User Management/Please select user** screen.

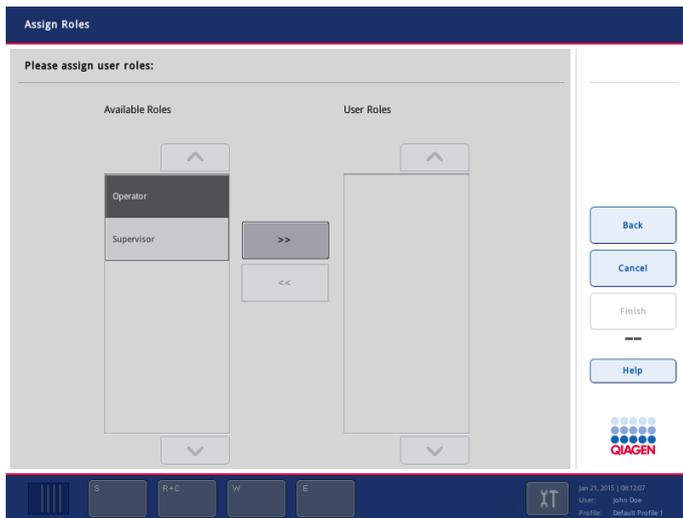
Create User screen.

Dialog panel

- | | |
|---------------------------------|---|
| Login | Press to access the Keyboard screen to enter the user login name. |
| First name (optional) | Press to access the Keyboard screen to enter a first name. This is optional. |
| Last name (optional) | Press to access the Keyboard screen to enter a last name. This is optional. |
| Initial Password | Press to access the Keyboard screen so that an initial password for the user can be entered. |
| Confirm Initial Password | Press to access the Keyboard screen to reenter the initial password to confirm it. |

3.11.4 Assign Roles screen

This screen allows the assignment of a certain role/certain roles to a specific user. The screen appears if the “Supervisor” has pressed the **Change Roles** button in the **User Management/Please select user** screen.



Assign Roles screen.

Available Roles list This list displays the available user roles.

User Roles list This list displays the assigned role(s) of the selected user.

User roles

There are 2 types of user role:

- Supervisor – Can manage users, transfer/synchronize files, configure the QIAsymphony SP/AS instruments and operate the QIAsymphony SP/AS instruments.
- Operator – Can operate the QIAsymphony SP/AS instruments.

To assign a role to the selected/new user, follow the instructions below.

1. Select the role to be assigned from the **Available Roles** list.
2. Press the  button.

The selected role is assigned to the user and appears in the **User Roles** list.

You can also remove an assigned role from the user.

1. Select the role to be removed in the **User Roles** list.
2. Press the  button.

The role is removed from the user and appears in the **Available Roles** list again.

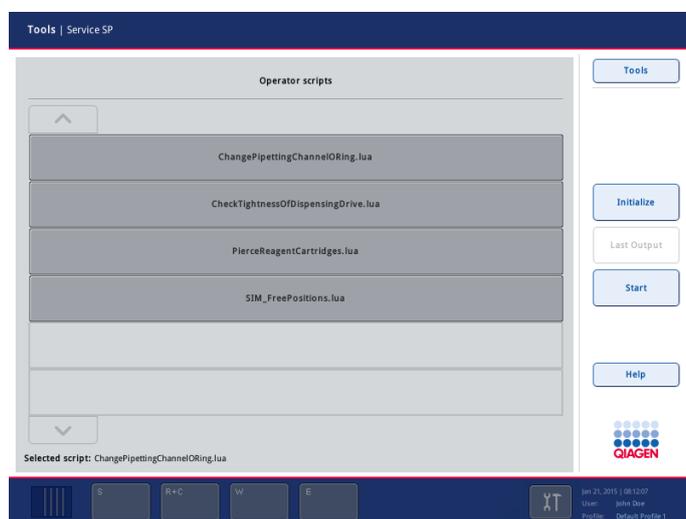
Note: If a user has only one assigned role and this should be changed, first assign the new role and then remove the old one. This is because a user must always have at least one assigned role.

3.12 Service SP menu

The **Service SP** menu enables the user to run operator service scripts or initialize the QIASymphony SP instrument.

3.12.1 Script Execution tab

The **Script Execution** tab enables the user to run **Operator scripts** which are service protocols. The available scripts are displayed in the **Operator scripts** list. Use the up and down arrows to scroll through the list. Select the script to be run by pressing the appropriate button.



Script Execution tab.

Command bar – Operator scripts



Allows the user to initialize the QIASymphony SP. When the button is pressed, a message appears that asks the user to select whether all devices except for the sample input module should be initialized. Press **Yes** to initialize the QIASymphony SP; press **No** to cancel the initialization.

During initialization, the magnetic head, lysis station and robotic arm move to their home positions. Sample prep cartridges that were being processed will be transferred to unit boxes in the “Waste” drawer and filter-tips discarded.

Note: If the QIAasympphony SP hood is closed, the initialization is carried out automatically when the instrument is switched on.

Note: If also using the QIAasympphony AS, both hoods must be closed for initialization to take place when the instruments are switched on. If one or both hoods are open, an error message will appear.

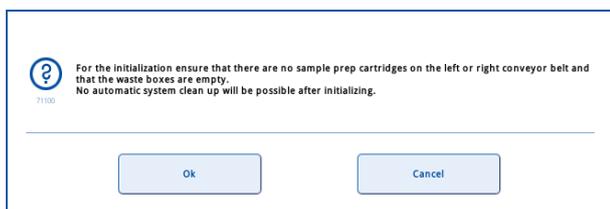


This button is enabled after an operator service script has been performed. When pressed, it opens the script output.



Starts the selected operator service script. While the selected script is being performed, an output message appears that provides information about the script being performed and the results (see “**Output panel**”, below).

A message appears when the **Initialize** button is pressed.



Dialog panel

Operator scripts list Scripts available to the current operator are displayed and can be selected by pressing the appropriate button.

Selected script The selected script is displayed here.

Operator scripts

The following scripts are available.

ChangePipettingChannelORing.lua Enables the tip-adapter O ring to be replaced. See Section 9.8 of the *General Description* for more information.

CheckTightnessOfDispensingDrive.lua Enables the tip adapter pump to be tested for wear and tear.

PierceReagentCartridges.lua Enables piercing of the reagent cartridge.

SIM_FreePositions.lua Initializes the sample input module.

Output panel

The **Output** panel displays the output of the selected operator service script.

Command bar – Output panel



Allows the user to initialize the QIASymphony SP. When the button is pressed, a message appears that asks the user to select whether all devices except for the sample input module should be initialized. Press **Yes** to initialize the QIASymphony SP; press **No** to cancel the initialization.

During initialization, the magnetic head, lysis station and robotic arm move to their home positions. Sample prep cartridges that were being processed will be transferred to unit boxes in the "Waste" drawer and filter-tips discarded.

Note: If the QIASymphony SP hood is closed, the initialization is carried out automatically when the instrument is switched on.

Note: If also using the QIASymphony AS, both hoods must be closed for initialization to take place when the instruments are switched on. If one or both hoods are open, an error message will appear.



Clears the content of the **Output** panel.



Displays the **Operator scripts** dialog panel.

Dialog panel

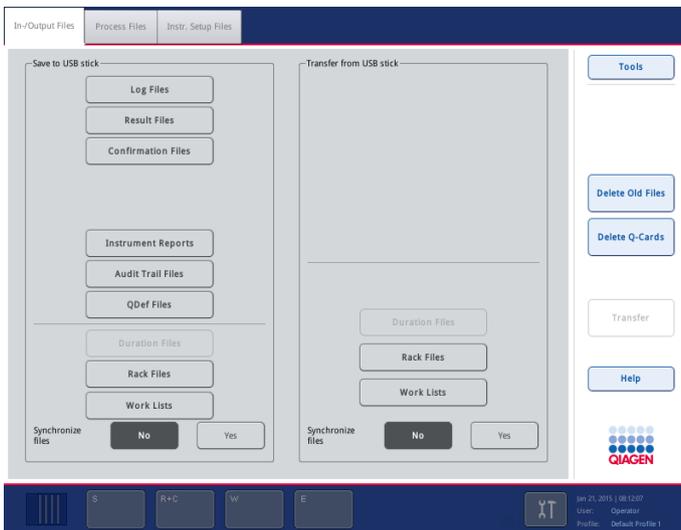
If the **Clear** button has not been pressed, the output of the selected service script is shown here.

3.13 File Transfer menu

The **File Transfer** menu enables the user to download files from the QIASymphony SP to the USB stick, and allows the user to upload files to the QIASymphony SP from the USB stick. The buttons that can be selected depend on the role of the user. Some buttons are only visible if the QIASymphony AS is installed. For more detailed information about handling files, see Section 8 of the *General Description*.

3.13.1 In-/Output Files tab

The **In-/Output Files** tab enables the user to download output files to the USB stick, to upload input files from the USB stick to the QIASymphony SP, or to synchronize in-/output files on the QIASymphony SP with files on a USB stick and vice versa.



In-/Output Files tab.

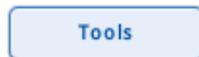
Command bar



Press to delete input and output files (except log files) older than a defined number of days. The default is 10 days and can be adjusted upon request by QIAGEN Field Service Specialists.



Press to transfer selected file types to the QIASymphony SP or to a USB stick, depending on which panel (**Save to USB stick** or **Transfer from USB stick**) was selected.



Press to go back to the tools overview.

Dialog panel – Save to USB stick

Press the corresponding button(s) to download files of the selected type(s) to an inserted USB stick (see Section 8 in the *General Description*).



Press to download system log file(s).



Press to download result file(s).



Press to download start batch confirmation files.

Loading Information

Press to download loading information file(s). Only visible if the QIA Symphony AS is installed.

Cycler Files

Press to download cycler file(s). Only visible if the QIA Symphony AS is installed.

Instrument Reports

Press to download instrument report file(s).

Audit Trail Files

Press to download audit trail file(s).

QDef Files

Press to download QDef file(s).

Duration Files

Press to download instrument duration file(s).

Rack Files

Press to download rack file(s).

Work Lists

Press to download work list(s).

Synchronize files

Yes

Press **Yes** if selected files should be synchronized when **Transfer** is pressed.

No

Press **No** if selected files should not be synchronized when **Transfer** is pressed.

Dialog panel – Transfer from USB stick

Press the corresponding button(s) to upload files of the selected type(s) from the USB stick to the instrument (see Section 8 in the *General Description* for more information).

Rack Files

Press to upload the rack file(s).

Work Lists

Press to upload work list(s).

Duration Files

Press to upload duration files(s).

Synchronize files

Yes

Press **Yes** if selected files should be synchronized when **Transfer** is pressed.

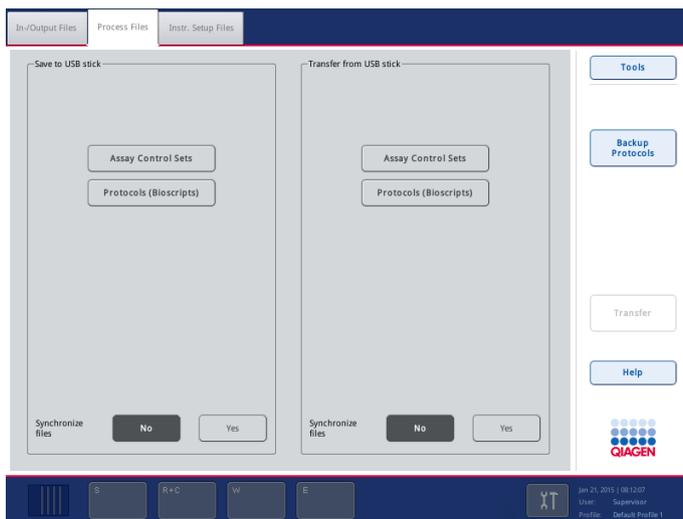
No

Press **No** if selected files should not be synchronized when **Transfer** is pressed.

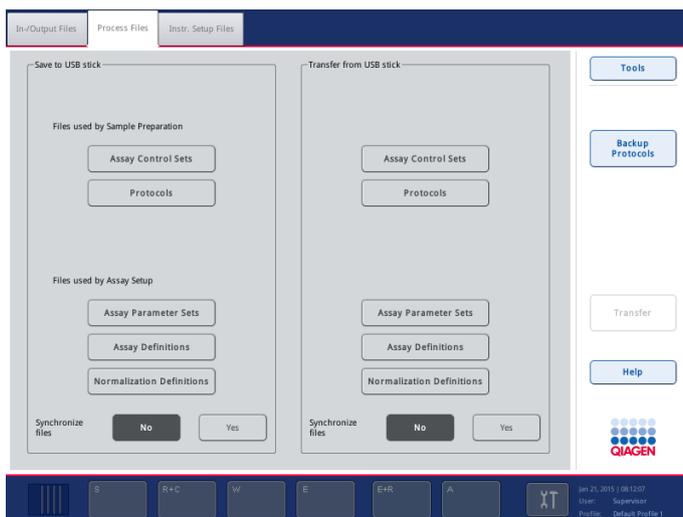
3.13.2 Process Files tab

The **Process Files** tab enables the user to download process files to the USB stick, to upload process files from the USB stick to the QIAasymphony SP, or to synchronize process files on the QIAasymphony SP with files on the USB stick and vice versa.

Note: This screen is different depending on whether you have a QIAasymphony SP alone, or if you have both the QIAasymphony SP and AS instruments.



Process Files tab (QIAasymphony SP only).



Process Files tab (QIAasymphony SP/AS instruments).

Command bar



Press to transfer selected file types to the QIAsymphony SP or to the USB stick, depending on which panel (**Save to USB stick** or **Transfer from USB stick**) was selected.



Press to transfer all protocols, assay control sets and, if QIAsymphony AS is installed, additional assay definitions, normalization definitions and assay parameter sets from QIAsymphony SP to USB stick.

Dialog panel – Save to USB stick (“Supervisor” only)

Press the corresponding button(s) to download files of the selected type(s) to an inserted USB stick (see Section 8 of the *General Description* for more information).



Press to download Assay Control Set file(s).



Press to download protocol file(s).



Press to download Assay Parameter Set file(s). Only visible if the QIAsymphony AS is installed.



Press to download Assay Definition file(s). Only visible if the QIAsymphony AS is installed.



Press to download Normalization Definition file(s). Only visible if the QIAsymphony AS is installed.

Synchronize files



Press **Yes** if selected files should be synchronized when **Transfer** is pressed (see Section 8.4 of the *General Description* for more information about synchronization of files).



Press **No** if selected files should not be synchronized.

Dialog panel – Transfer from USB stick (“Supervisor” only)

Press the corresponding button(s) to upload files of the selected type(s) from the USB stick to the QIAsymphony SP/AS. See Section 8 of the *General Description* for more information.



Press to upload Assay Control Set file(s).



Press to upload new protocol file(s).

Assay Parameter Sets

Press to upload Assay Parameter Set file(s). Only visible if the QIAasymphony AS is installed.

Assay Definitions

Press to upload Assay Definition file(s). Only visible if the QIAasymphony AS is installed.

Normalization Definitions

Press to upload Normalization Definition file(s). Only visible if the QIAasymphony AS is installed.

Synchronize files

Yes

Press **Yes** if selected files should be synchronized when **Transfer** is pressed (see Section 8.4 of the *General Description* for more information about synchronization of files).

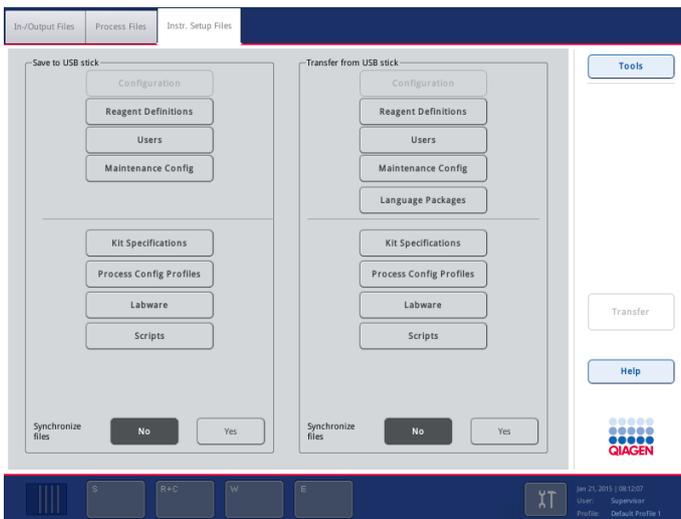
No

Press **No** if selected files should not be synchronized.

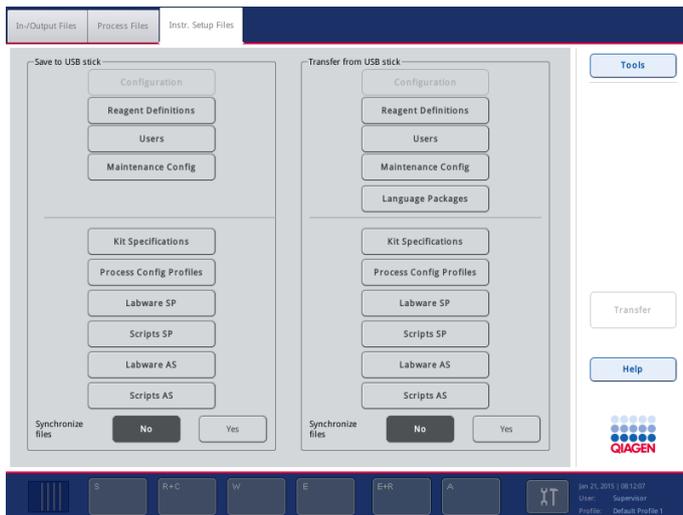
3.13.3 Instr. Setup tab

The **Instr. Setup** tab enables the user to download instrument setup files to the USB stick, to upload instrument setup files from the USB stick to the QIAasymphony SP, or to synchronize instrument setup files on the QIAasymphony SP with files on the USB stick and vice versa.

Note: This screen is different depending on whether you have a QIAasymphony SP alone, or if you have both the QIAasymphony SP and AS instruments.



Instr. Setup Files tab (QIAasymphony SP only).



Instr. Setup Files tab (QIASymphony SP/AS instruments).

Command bar



Press to transfer selected file types to the QIASymphony SP/AS or to the USB stick, depending on which panel (**Save to USB stick** or **Transfer from USB stick**) was selected.

Dialog panel – Save to USB stick (“Supervisor” only)

Press the corresponding button(s) to download files of the selected type(s) to an inserted USB stick (see Section 8 in the *General Description* for more information).

Note: Buttons for download of QIASymphony AS files will only appear if you have a QIASymphony AS.



Press to download custom process configuration profiles.



Press to download information about the reagent cartridge.



Press to transfer information about all created users to an inserted USB stick.



Press to download the maintenance configuration.



Press to download kit specifications.



Press to download the QIASymphony SP labware file(s).

Scripts SP

Press to download operator service scripts for the QIASymphony SP.

Labware AS

Press to download the QIASymphony AS labware file(s).

Scripts AS

Press to download operator service scripts for the QIASymphony AS.

Synchronize files

Yes

Press **Yes** if selected files should be synchronized when **Transfer** is pressed (see Section 8.4 of the *General Description* for more information about synchronization of files).

No

Press **No** if selected files should not be synchronized.

Dialog panel – Transfer from USB stick (“Supervisor” only)

Press the corresponding button(s) to upload files of the selected type(s) from an inserted USB stick (see Section 8 of the *General Description* for more information).

Note: Buttons for upload of QIASymphony AS files will only appear if you have a QIASymphony AS.

Maintenance Config

Press to upload the maintenance configuration.

Process Config Profiles

Press to upload custom process configuration profiles.

Reagent Definitions

Press to upload information about the reagent cartridge.

Users

Press to transfer information about all created users from an inserted USB stick to the QIASymphony SP.

Kit Specifications

Press to download kit specifications.

Labware SP

Press to upload the QIASymphony SP labware file(s).

Scripts SP

Press to upload operator service scripts for the QIASymphony SP.

Labware AS

Press to upload the QIASymphony AS labware file(s).

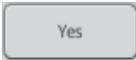
Scripts AS

Press to upload operator service scripts for the QIASymphony AS.

Language Packages

Press to download new language packages.

Synchronize files



Press **Yes** if selected files should be synchronized when **Transfer** is pressed (see Section 8.4 of the *General Description* for more information about synchronization of files).



Press **No** if selected files should not be synchronized.

3.14 Instrument Report menu

The **Instrument Report** menu displays information to help QIAGEN Technical Services with troubleshooting. The displayed information updates every time the **Instrument Report** menu is selected.

Command bar



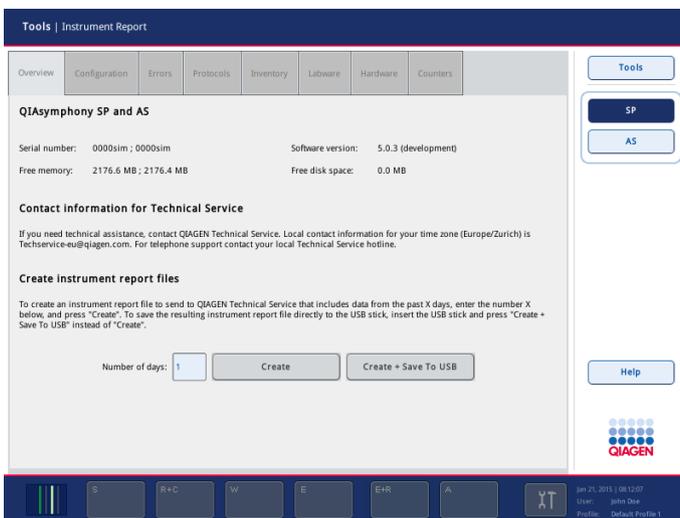
Displays information about the QIAsymphony SP. Only visible when connected to a QIAsymphony AS.



Only enabled when connected to a QIAsymphony AS.

3.14.1 Overview tab

This tab displays information about the QIAsymphony SP (e.g., serial number, software version, free disk space and memory), contact information for QIAGEN Technical Services and the option to create an instrument report file.

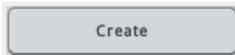


Tools/Instrument Report menu (Overview tab).

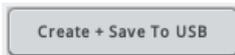
Dialog panel

Number of days

Specifies the number of days for which an instrument report file will be created.



Creates an instrument report file.

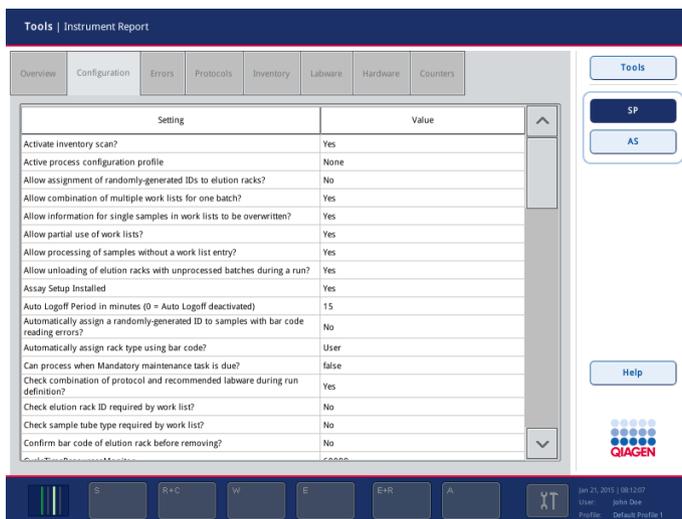


Creates an instrument report file and saves it to the USB stick.

3.14.2 Configuration tab

This tab displays all configuration settings in alphabetical order, including default tube types and the process configuration profile that is currently selected.

Note: If a QIASymphony AS is connected, this tab also displays the number of available adapters.



Tools/Instrument Report menu (Configuration tab).

3.14.3 Errors tab

This screen displays the 100 most recent error messages from the system error log file. Messages are listed in chronological order. Use the arrows to scroll through the messages.

- ID** The ID of the batch in which the file was used.
- File type** The file type (e.g., Protocol, Assay Control Set).
- Name** The file name.
- Version** The version number of the file.
- Authentic** “QIAGEN file” indicates that the file was provided by QIAGEN. “Custom file” indicates that the file was provide by or modified by the user.

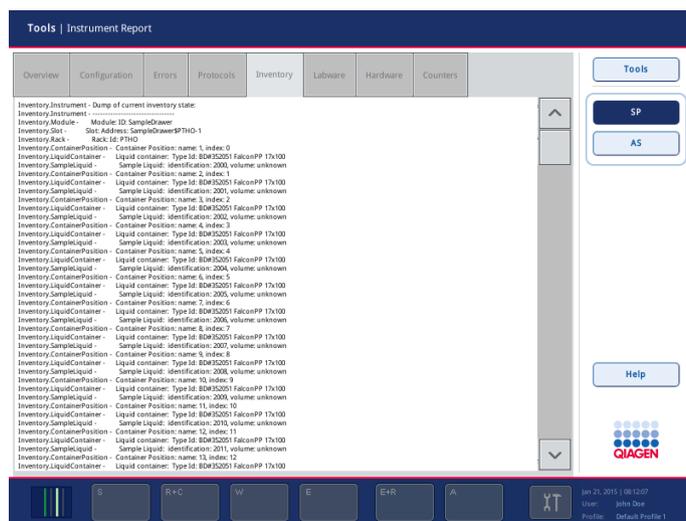
Batch table

This table shows the number of samples processed by each batch, and the date and time when the batch was started. Each row in the table corresponds to one batch.

- ID** The ID of the batch in which the file was used.
- Samples** Number of samples.
- Start time** Time when the batch was started.

3.14.5 Inventory tab

This screen displays the items that are loaded on the worktable.



Tools/Instrument Report menu (Inventory tab).

3.14.6 Labware tab

This screen shows the version numbers of all the labware files that are installed on the QIASymphony SP.

The screenshot shows the 'Tools | Instrument Report' interface with the 'Labware' tab selected. The main area displays a table of installed labware items and their versions. On the right, there are buttons for 'Tools', 'SP', and 'AS', along with a 'Help' button and the QIAGEN logo. The bottom status bar shows the date 'Jan 21, 2015 08:12:07', user 'John Doe', and profile 'Default Profile 1'.

Labware	Version
00	119
01	115
02	116
03	110
1A	111
2A	111
3B	109
AB#0600 *PCR96	113
AB#0700 *PCR96 LowPro	111
AB#0765 *0.8ml StoragePlate	102
AB#0765 0.8ml StoragePlate	100
AB#0800 *PCR96 SkirtLowPro	110
AB#0800 PCR96 SkirtLowPro	104
AB#0932 2.2mlSPMarkII	102
AB#AB-1185 *2.0ml2DPlate	102
AB#AB-1185 2.0ml2DPlate	103
ABT#4J130 DeepWell96 RB	100
AlcoTroughRack	106

Tools/Instrument Report menu (Labware tab).

3.14.7 Hardware tab

This screen displays information relating to the instrument hardware.

The screenshot shows the 'Tools | Instrument Report' interface with the 'Hardware' tab selected. The main area displays two tables: one for hardware module status (Present/Initialized) and one for firmware versions. On the right, there are buttons for 'Tools', 'SP', and 'AS', along with a 'Help' button and the QIAGEN logo. The bottom status bar shows the date 'Jan 21, 2015 08:12:07', user 'John Doe', and profile 'Default Profile 1'.

Hardware module	Present	Initialized
1-wire	present	n/a
Can Nodes	present	n/a
Date	present	n/a
Eluate	present	initialized
Extractor	n/a	initialized
I2c	present	n/a
Lysis	n/a	initialized
PiercingDevice	n/a	initialized

Hardware module	Firmware version
Eluate	2.15 (Build 0056) 2010-02-09 TX SIM
Extractor	0.0.0
Lysis	0.0.0
PiercingDevice	2007-10-29sim
PipettingCh1	3.2E (Build 0230) 2016-11-23 PX SIM
PipettingCh2	3.2E (Build 0230) 2016-11-23 PX SIM
PipettingCh3	3.2E (Build 0230) 2016-11-23 PX SIM
PipettingCh4	3.2E (Build 0230) 2016-11-23 PX SIM

Tools/Instrument Report menu (Hardware tab).

Hardware check and initialization table

Hardware module Indicates a hardware module.

Present Indicates whether a particular hardware module is present. For hardware modules that cannot be checked, “n/a” is shown. An entry of “present” indicates that the hardware module is present; “failed” indicates that the check failed. In this case, more detailed information about the error is displayed.

Initialized An entry of “initialized” indicates that the hardware module has been initialized, “uninitialized” indicates that the hardware module could not be initialized and “n/a” indicates that it is not possible to initialize this hardware module.

Firmware version table

This table shows the firmware version for all hardware modules that use separate firmware.

3.14.8 Counters tab

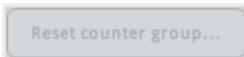
The **Counters** screen shows the values of all hardware counters. This screen also allows the “Supervisor” to reset the hardware counters for the O-rings.

Name	Module	Group	Value	Unit
SP System ON time	System	SP System	0	hours
SP Started runs	System	SP Runs	1	cycles
SP Completed runs	System	SP Runs	1	cycles
SP Processed samples	System	SP Runs	24	cycles
SP Fan 1 ON time	System	SP Fan1	0	hours
SP Fan 2 ON time	System	SP Fan2	0	hours
SP Hoodlock ON time	System	SP Hoodlock	0	hours
SP Hoodlock switch cycles	System	SP Hoodlock	0	cycles
SP UV ON time	UV	SP UV	0	hours
SP UV switch cycles	UV	SP UV	0	cycles
SP Sample Input Carrier locking cycles	Sample Input	SP Sample Input	2	cycles
SP Sample Input Barcode Camera read cycles	Sample Input	SP Sample Input	2	cycles
SP Reagentdrawer locking ON	Drawer	SP Reagent Drawer Lock	0	hours
SP Reagentdrawer switch cycles	Drawer	SP Reagent Drawer Lock	0	cycles
SP Wastedrawer ON time	Drawer	SP Waste Drawer Lock	0	hours
SP Waste drawer switch cycles	Drawer	SP Waste Drawer Lock	0	cycles

Tools/Instrument Report menu (Counters tab).

Note: The hardware counters for O-rings are also automatically replaced by the O-ring replacement maintenance script.

To manually reset the hardware counters for the O-ring of a specific pipetting channel, press **Reset counter group**.



Enables the user to reset the hardware counters for the O-ring of a specific pipetting channel. Select the appropriate pipetting channel and then press **OK**.

3.15 Rack Browser menu

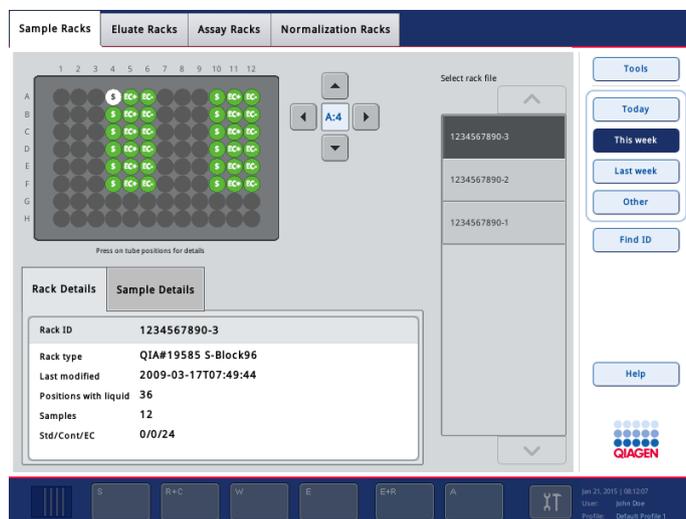
This menu allows the user to view rack files that are currently saved on the QIASymphony SP. The contents of the rack file are displayed graphically on a schematic of a plate. Additional rack information (i.e., rack ID, rack type, modification date) and position information is also shown. It is possible to filter for rack files used within a certain time frame (e.g., today, this week, last week). It is also possible to search for racks with a particular rack ID.

If your QIASymphony SP is not connected to a QIASymphony AS, there are 2 tabs: **Sample Racks** and **Eluate Racks**. If you have a QIASymphony AS, there are third and fourth tabs: **Assay Racks** and **Normalization Racks**. For more information about the **Assay Racks** and **Normalization Racks** tabs, see Section 3.8 of *Operating the QIASymphony AS*.

Note: This menu cannot be used to modify rack files.

3.15.1 Sample Racks tab

This tab displays information about which racks can be used as sample racks (i.e., input racks). There are 2 additional tabs within this tab, the **Rack Details** and **Sample Details** tabs.



Sample Racks tab.

Command bar

	Displays the Tools menu.
	Displays the rack files that were modified today.
	Displays the rack files that have been modified since 00:00 of Monday of the current week, including the rack files that were modified today. This option is preselected by default.
	Displays the rack files that were modified between 00:00 of Monday last week and 00:00 of Monday of the current week.
	Displays the rack files that were modified before 00:00 of Monday last week.
	Enables users to manually enter and then search for IDs using the Keyboard screen.

Schematic plate The selected rack is displayed as a schematic diagram. Positions in the rack are color coded. Select a position by pressing on it, or by using the arrow buttons, to display information about that position.

For more information about schematic diagrams of plates, see Section 3.5.

Rack Details tab Displays details about the selected rack (e.g., rack ID, rack type, date last modified).

Sample Details tab Displays details about the sample that is currently selected in the rack. Details include sample ID, sample type, sample state and volume.

Select rack file list Lists rack IDs in descending order by last modification date. Only rack IDs that fit to the current time filter (i.e., today, this week, last week, other) are displayed. When a rack ID from this list is selected, details about this rack are displayed in the corresponding tabs.

Note: Assay rack files will only be displayed if your QIASymphony SP is connected to a QIASymphony AS.

3.15.2 Eluate Racks tab

This tab displays information about which racks can be used as elution racks (i.e., output racks). There are 2 additional tabs within this tab, the **Rack Details** and **Sample Details** tabs.

The screenshot shows the 'Eluate Racks' tab in the software interface. At the top, there are four tabs: 'Sample Racks', 'Eluate Racks', 'Assay Racks', and 'Normalization Racks'. The 'Eluate Racks' tab is active. On the left, there is a schematic plate diagram with columns 1-12 and rows A-H. A rack is highlighted in the center, and its details are shown in a panel below it. The 'Rack Details' panel is selected, displaying the following information:

Rack ID	1234-1
Rack type	QIA919585 *S-Block96
Last modified	2009-03-17T07:49:44
Positions with liquid	32
Samples	11
Std/Cont/EC	1/2/16

To the right of the schematic plate, there is a 'Select rack file' dropdown menu with a list of rack IDs: 1234-4, 1234-3, 1234-2, 1234-1, 101374012345678900002, and 101374012345678900001. Below the dropdown is a 'Tools' button and a 'Find ID' button. On the far right, there are buttons for 'Today', 'This week', 'Last week', and 'Other'. At the bottom of the interface, there is a status bar with the date 'Jan 21, 2013 10:20:07', the user 'John Doe', and the profile 'Default Profile 1'.

Eluate Racks tab (Rack Details).

The screenshot shows the 'Eluate Racks' tab in the software interface. At the top, there are four tabs: 'Sample Racks', 'Eluate Racks', 'Assay Racks', and 'Normalization Racks'. The 'Eluate Racks' tab is active. On the left, there is a schematic plate diagram with columns 1-12 and rows A-H. A rack is highlighted in the center, and its details are shown in a panel below it. The 'Sample Details' panel is selected, displaying the following information:

Sample ID	Smp1-A2
Sample type	Sample
Sample state	valid
Volume	100.0 µl
Internal Control	n/a
Concentration	n/a
KIT bar code	n/a
IC kit bar code	n/a

To the right of the schematic plate, there is a 'Select rack file' dropdown menu with a list of rack IDs: 1234-4, 1234-3, 1234-2, 1234-1, 101374012345678900002, and 101374012345678900001. Below the dropdown is a 'Tools' button and a 'Find ID' button. On the far right, there are buttons for 'Today', 'This week', 'Last week', and 'Other'. At the bottom of the interface, there is a status bar with the date 'Jan 21, 2013 10:20:07', the user 'John Doe', and the profile 'Default Profile 1'.

Eluate Racks tab (Sample Details).

Schematic plate The selected rack is displayed as a schematic diagram. Positions in the rack are color coded. Select a position by pressing on it, or by using the arrow buttons, to display information about that position.

For more information about schematic diagrams of plates, see Section 3.5.

Rack Details tab	Displays details about the selected rack (e.g., rack ID, rack type, date last modified).
Sample Details tab	Displays details about the sample that is currently selected in the rack. Details include sample ID, sample type, sample state and volume.
Select rack file list	Lists rack IDs in descending order by last modification date. Only rack IDs that fit to the current time filter (i.e., today, this week, last week, other) are displayed. When a rack ID from this list is selected, details about this rack are displayed in the corresponding tabs.

Note: Assay rack files will only be displayed if your QIASymphony SP is connected to a QIASymphony AS.

3.16 Labware Browser menu

The **Labware SP** tab of the **Labware Browser** menu enables the user to view information about labware that can be used with the QIASymphony SP.

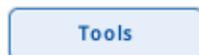
Note: The **Labware AS** tab is only available if your QIASymphony SP is connected to a QIASymphony AS. For more information about the **Labware AS** tab, see Section 3.7.1 of *Operating the QIASymphony AS*.

Select **Tube Carrier** to view information about sample tubes that can be used with the tube carrier, or select **Racks** to view information about which sample and elution racks can be used.

3.16.1 Tube Carrier screen

This screen displays information about which tubes can be used with the tube carrier, and with which protocols. For information about labware, press **Labware**. For information about protocols, press **Protocols**.

Command bar



Displays the **Tools** menu.



Opens the **Tube Carrier** screen. This screen displays information about which sample tubes can be used with the tube carrier.



This button is inactive when a QIASymphony AS is not connected.



Opens the **Racks** screen. This screen provides information about which sample and elution racks can be used.

Dialog panel – Tube Carrier screen



Opens the **Labware** dialog panel. See the section below for more information.



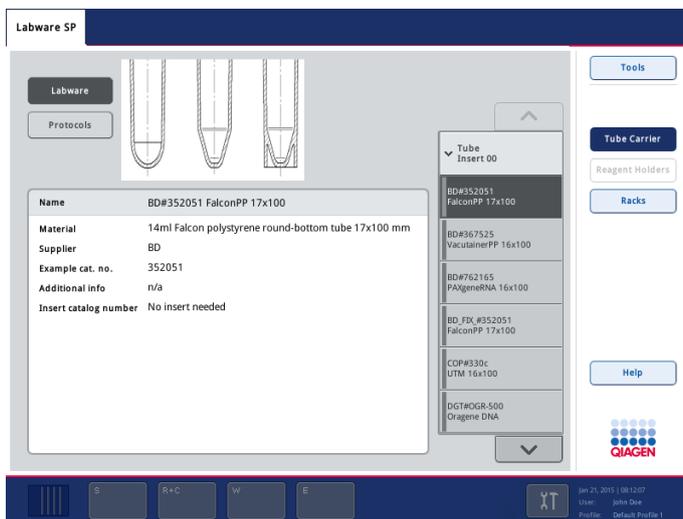
Opens the **Protocols** dialog panel. See the section below for more information.



Opens the **Assays** dialog panel. See the section below for more information.

Dialog panel – Labware

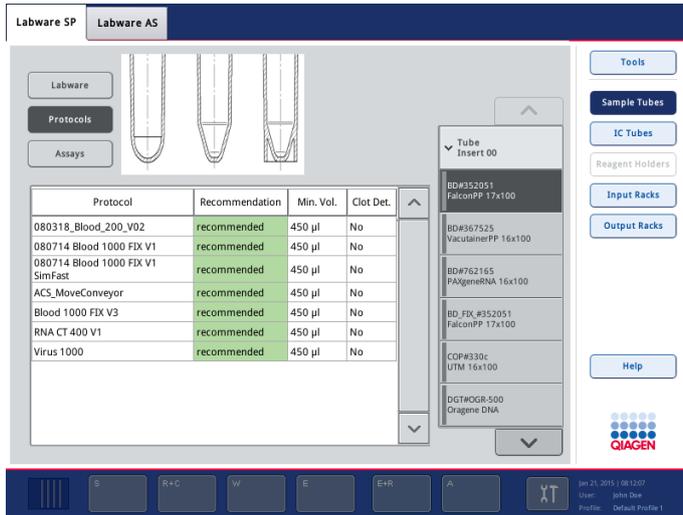
This dialog panel is displayed when **Labware** is selected in the command bar. Available sample tubes are listed on the right. Information about the selected item of labware, including an image, is displayed.



Tube Carrier screen (**Labware** dialog panel).

Dialog panel – Protocols

This dialog panel is displayed when **Protocols** is selected. The protocols that can be run with the selected item of labware are shown in a table.

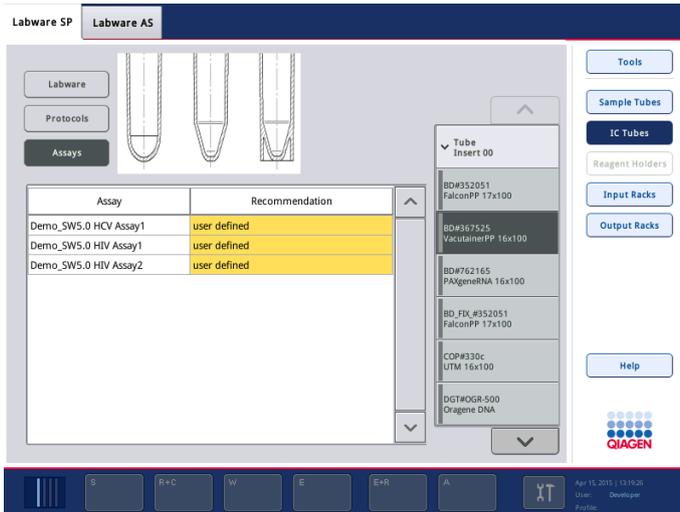


Tube Carrier screen (Protocols dialog panel).

- Protocol** The name of the protocol.
- Recommendation** Indicates whether the selected item of labware is recommended for use with a particular protocol.
- Green indicates that the labware is recommended for use with the protocol
 - Red indicates that the labware is not recommended for use with the protocol
 - Yellow indicates that it is the user's responsibility to validate system performance using these tube formats for any procedures used in their laboratory and that these tubes are not covered by the QIAGEN performance evaluation study.
- Min. Vol.** Indicates the minimum sample volume that can be used with this item of labware.
- Clot Det.** Indicates whether clot detection can be used with this item of labware. "Yes" indicates that clot detection can be used and "No" indicates that clot detection cannot be used.

Dialog panel – Assays

This dialog panel is displayed when QIASymphony AS is installed and **Assays** is selected. The assays that can be run with the selected item of labware are shown in a table (only visible if QIASymphony AS is installed).



Tube Carrier screen (**Assays** dialog panel).

Assay

The name of the assay.

Recommendation

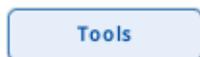
Indicates whether the selected item of labware is recommended for use with a particular assay.

- Green indicates that the labware is recommended for use with the assay
- Red indicates that the labware is not recommended for use with the assay
- Yellow indicates that it is the user’s responsibility to validate system performance using these tube formats for any procedures used in their laboratory and that these tubes are not covered by the QIAGEN performance evaluation study.

3.16.2 **Racks** screen

This screen displays information about selected sample racks. Sample racks are selected from the list on the right.

Command bar



Displays the **Tools** menu.



Opens the **IC Tubes** screen. This screen displays information about which IC tubes can be used.



Opens the **Tube Carrier** screen. This screen displays information about which sample tubes can be used with the tube carrier.



This button is inactive when a QIASymphony AS is not connected.



Opens the **Racks** screen. This screen provides information about which sample and elution racks can be used.



Opens the **Input Racks** dialog panel and provides information about which sample racks can be used. This button is only available in the **Protocols** dialog panel.



Opens the **Output Racks** dialog panel and provides information about which elution racks can be used. This button is only available in the **Protocols** dialog panel.

Dialog panel – Racks screen



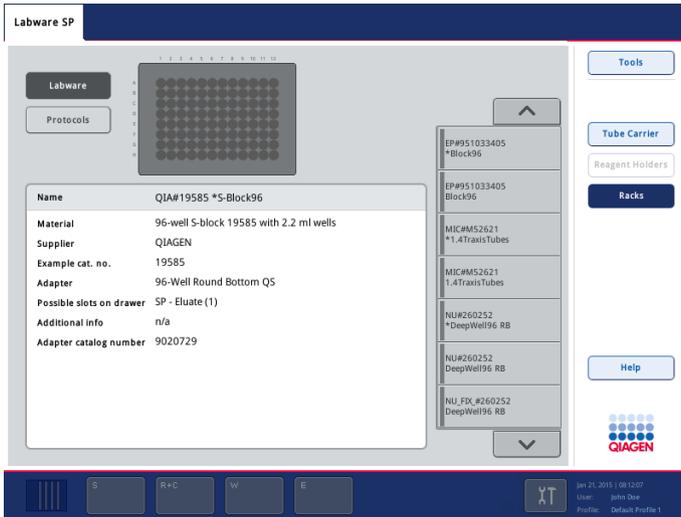
Opens the **Labware** dialog panel. See the section below for more information.



Opens the **Protocols** dialog panel. See the section below for more information.

Dialog panel – Labware

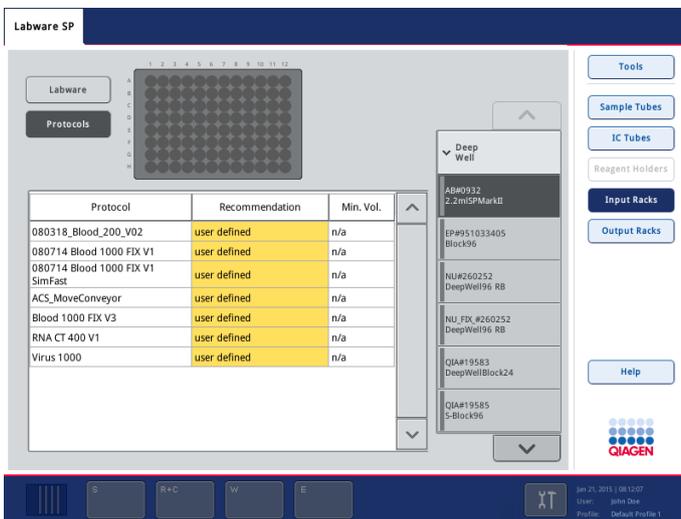
This dialog panel is displayed when **Labware** is selected in the command bar. Available sample racks are listed on the right. Information about the selected item of labware, including an image, is displayed.



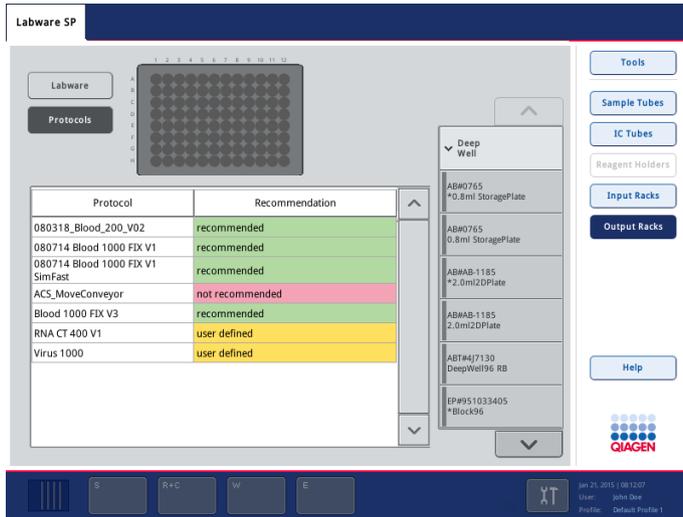
Racks screen (Labware dialog panel).

Dialog panel – Protocols

This dialog panel is displayed when **Protocols** is selected. The protocols that can be run with the selected item of labware are shown in a table. Select **Input Racks** to view information about selected sample racks, or select **Output Racks** to view information about selected elution racks.



Racks screen (Protocols/Input Racks dialog panel).



Racks screen (Protocols/Output Racks dialog panel).

Protocol

The name of the protocol.

Recommendation

Indicates whether the selected item of labware is recommended for use with a particular protocol.

- Green indicates that the labware is recommended for use with the protocol
- Red indicates that the labware is not recommended for use with the protocol
- Yellow indicates that it is the user’s responsibility to validate system performance using these tube formats for any procedures used in their laboratory and that these tubes are not covered by the QIAGEN performance evaluation study.

Index

- Accessory Trough, 31
- Assay Control Set
 - assigning to sample batch, 49
 - definition, 95
 - selection from list, 130
 - Wizard, 147
- Automatic transfer
 - elution rack to QIAAsymphony AS, 80
- Bar codes
 - eluate rack, 20
 - errors, 42
 - virtual, 47
- Buffer bottle, 30
- Elution rack
 - transfer to QIAAsymphony AS, 80
- Elution slot, 143
- Fast Setup, 61, 115, 132
 - sample plate carrier, 72
- Getting started, 11, 95
- Instrument report, 171
- Instrument setup files, 168
- Intended use, 10
- Internal controls
 - assignment, 137
 - bar code errors, 42
 - continuous loading, 71
 - loading, 66
 - overwriting default tube type, 46
 - unloading, 85
- Inventory scan, 17, 24, 35, 146
 - partial, 68
- Loading
 - "Eluate" drawer, 17
 - "Reagents and Consumables" drawer, 25, 149
 - "Sample" drawer, 36
 - "Waste" drawer, 13, 148
- Loading consumables, 31
- Loading reagent cartridges, 28
- Maintenance, 155
 - cleanup, 91
 - instrument components, 88
- Operator service scripts, 161
- Plate view, 133
- Progress bar, 117
- Protocol
 - definition, 94
- QIAAsymphony software, 94
 - command bar, 101
 - common features, 95
 - drawer buttons, 98
 - file transfer, 163
 - keyboard screen, 102
 - messages, 97
 - schematic plates, 101
 - status bar, 97
- Reagent cartridges, 26
- Rodslots, 91
- Run
 - complete, 76, 88
 - pausing, 74
 - resuming, 75
 - starting, 69
 - stopping, 75
- Sample rack
 - plate view, 133
 - select area, 133
- Samples
 - Assay Control Sets, 49
 - bar code errors, 42
 - batch status, 114
 - configuring, 48
 - continuous loading, 71
 - defining, 49
 - editing, 125
 - overwriting default sample tube, 46
 - removing, 86
 - sample buttons, 123
 - unloading, 84
- Screen
 - consumables, 106
 - Eluate Drawer, 108, 139
 - Internal Controls, 137
 - Keyboard, 102
 - Labware Browser, 180
 - Rack Browser, 177
 - Sample Preparation, 104, 111
 - Tools, 109

- User Management, 156
- Waste, 108
- Synchronize files, 167
- Tip chute, 15
- Tip racks, 33
- Troubleshooting
 - instrument report, 171
- Unit boxes, 34
- Unloading
 - “Eluate” drawer, 76
 - internal controls, 85
 - Reagents and consumables, 82
 - samples, 84

- Users
 - assign roles, 159
 - create user, 159
 - login, 113
 - user management, 156
- Wizard, 11, 147
 - loading the “Eluate” drawer, 17
 - loading the “Reagents and Consumables” drawer, 25
 - loading the “Sample” drawer, 36
 - loading the “Waste” drawer, 13
 - Sample Preparation screen, 147
 - starting, 12

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