

RapidFire 400 System

Quick Start Guide

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Where to find more information

User guides



You can access these guides from the RapidFire Resource App which you can start from the RapidFire Resources icon.

User Guide This guide describes how to prepare, maintain, and run the RapidFire 400 System.

Data Analysis Guide This guide describes how to use the RapidFire Integrator software to prepare and analyze data.

Safety Guide This guides contains the safety instructions for operating the RapidFire 400 System.

Web Site

Go to **www.agilent.com** for more information about the RapidFire System.

Getting Started

Refer to the *RapidFire 400 System User Guide* for detailed instructions.

System Preparation

System preparation

Step	Details
1 Prepare solvents	Pull out the solvent drawer and make sure you have enough solvent. 
2 Check waste capacity	Check that the waste containers have enough room to accommodate the waste that will be generated from the runs that are planned.
3 Start the vacuum system	Open up the vacuum valve or switch on your standalone vacuum pump.

Step

Details

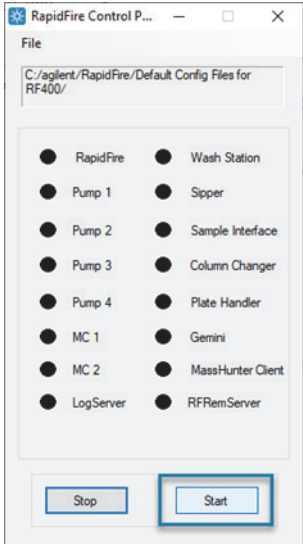
4 Start the software

a Double-click the RapidFire Control Panel desktop icon.

b Click **File > Choose CFGs**.

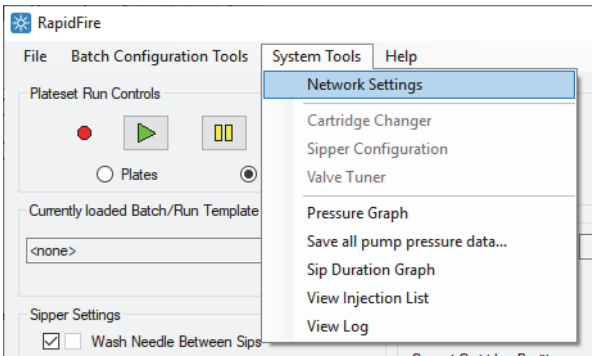
c Select the configuration folder under **C:\Agilent\RapidFire**.

d Click **Start** in the Control Panel dialog box.

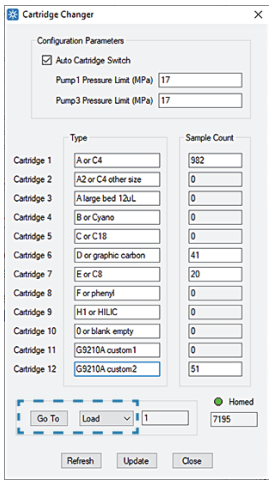


System preparation

Step	Details
5	Verify network settings
	a b c d Double-click the RapidFire UI desktop icon. Click System Tools > Network Settings. Verify that the IP addresses for the RapidFire computer and the mass spectrometer computer are correct. Click Connect in the main window.



6	Home the cartridge changer and insert your cartridges	Click System Tools > Cartridge Changer . Refer to the <i>User Guide</i> for more details.
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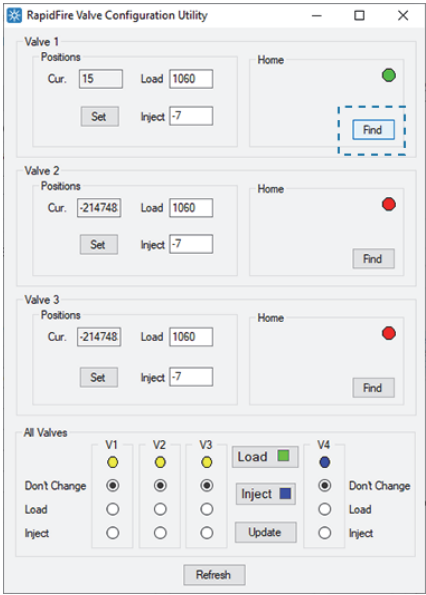


Step	Details
7	Home the stages
	a Click System Tools > Sipper Configuration. b Select the plate type you are using from the Plate to Configure list.

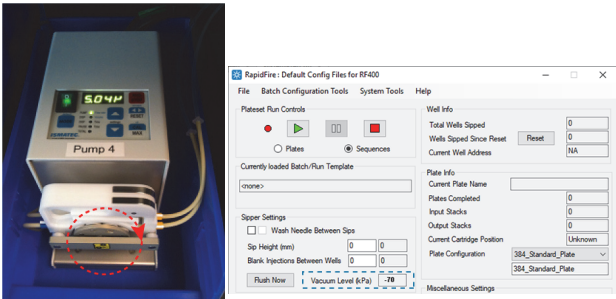


System preparation

Step	Details
8	Home the valves
	a b Click System Tools > Valve Tuner to open the Valve Configuration dialog box. Click Find to home a valve. Refer to the <i>User Guide</i> for details.



9	Prepare the peristaltic pump
	a b Check that Pump 4 is turned on and rotating clockwise. Ensure that the vacuum is at least -70 kPa.



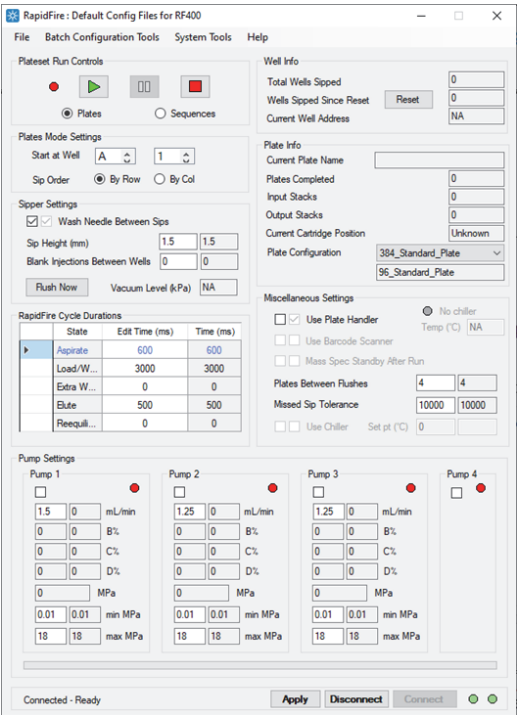
Step	Details
10 Prepare the quaternary pumps	- Open the purge valves. - Turn on the pump flow. - Turn off the pump flow once the lines are purged. - Close the purge valves.
11 Flush the sipper tube	Under Sipper Settings, click Flush Now.
12 Prepare the MassHunter Data Acquisition program	- If you have two controlling computers (one for the mass spec (MS) and one for RapidFire), on the MS computer, double-click on the RapidFire Communicator desktop icon. - Start the Data Acquisition program. - Turn on the detector. - Calibrate the mass spec. - Create or edit a method settings that are appropriate for your analysis. - Save the method.

Run the RapidFire 400 System in Plates Mode

Running the RapidFire 400 System in Plates Mode

Step	Details
1 Prepare the plates.	Thaw sample plates and spin on a centrifuge at 3000 rpm for five minutes.
2 Load the plates.	Manually place a plate on the stage or load the stacks to use the plate handler.
Miscellaneous Settings ☒ ☒ Use Plate Handler ☐ ☐ Use Barcode Scanner ☐ ☐ Mass Spec Standby After Run Plates Between Flushes 44 Missed Sip Tolerance 1000010000 ☐ ☐ Use Chiller Set pt (°C)0 ☒ No chiller Temp (°C)NA	
3 Prepare the MassHunter Data Acquisition program.	a Open or create a method and set parameters for your analysis. b Set up a Manual Run. Set injection volume to As Instrument. c Run the sample.

- | Step | Details |
|------|---|
| 4 | <div>Set the RapidFire system run parameters.</div> <div><div>a</div><div>Select the Plates option.</div><div>b</div><div>Set the parameters for your analysis in the RapidFire software main window.</div><div>c</div><div>Save the settings as a method.</div></div> |

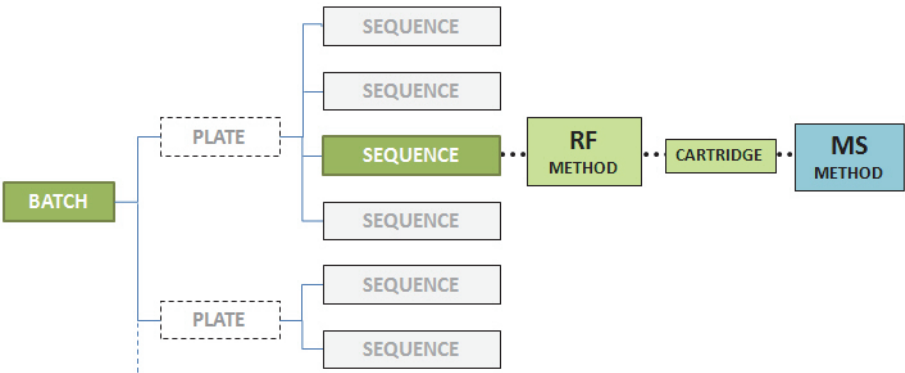


- | | |
|---|--|
| 5 | <div>Start the run in Plates mode.</div> <div>Click the play button.</div> |
|---|--|



Run the RapidFire System in Sequences mode

The following diagram illustrates the terminology used to define a batch of plates run in Sequences mode.

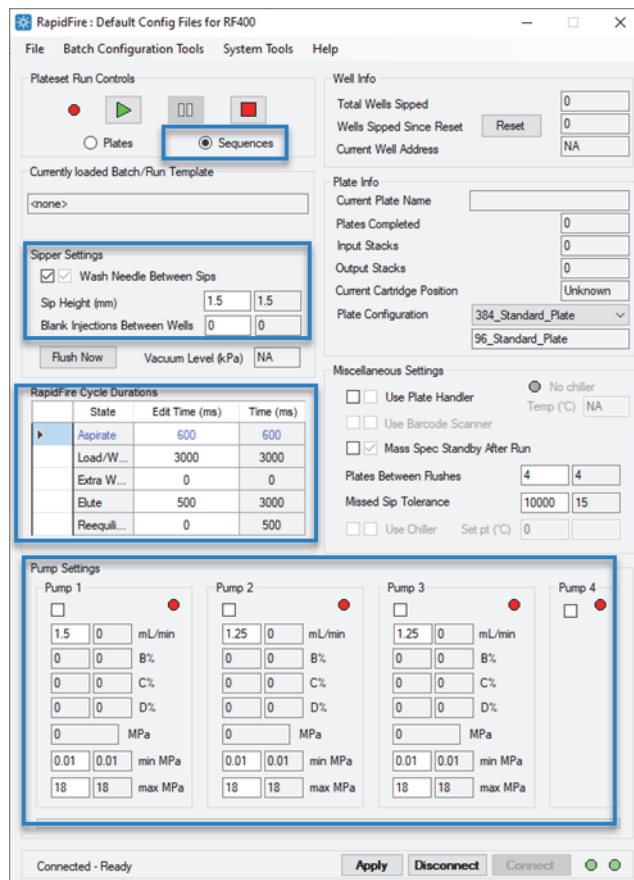


To run in Sequence mode:

Step	Details
1 Prepare the plates.	Thaw sample plates and spin in a centrifuge at 3000 rpm for five minutes.
2 Load the plates.	Manually place a plate on the stage or load the stacks to use the plate handler.
Miscellaneous Settings ☒ ☒ Use Plate Handler ☐ Use Barcode Scanner ☐ Mass Spec Standby After Run Plates Between Flushes 44 Missed Sip Tolerance 1000010000 ☐ Use Chiller Set pt (°C)0 ☐ No chiller Temp (°C)NA	
3 Prepare the MassHunter Data Acquisition program.	Make sure the MassHunter Data Acquisition program is prepared as described in “ System Preparation ” on page 3.

To run in Sequence mode:

Step	Details
4	Create a method file. a Select Sequences. b Set the parameters in the RapidFire software. c Click File > Save RF method as... (file type .rfcfg)



To run in Sequence mode:

Step	Details
5	5 Create or edit a plate map that has your sequences. a Click Batch Configuration Tools > Plate Map Editor. b Create or edit one or more sequences. c Click File > Save as (file type .rfmap).

RapidFire Sequence PlateMap Editor

File

Plate Size

☐ 96 Wells

☒ 384 Wells

☐ 1536 Wells

Select By

☒ Row

☐ Column

Sequences

1

New

Delete

Matrix Stations

1 2 3 4

Wash Stations

Aq Org

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

A B C D E F G H I J K L M N O P

Additional Functions

Delay 30 s

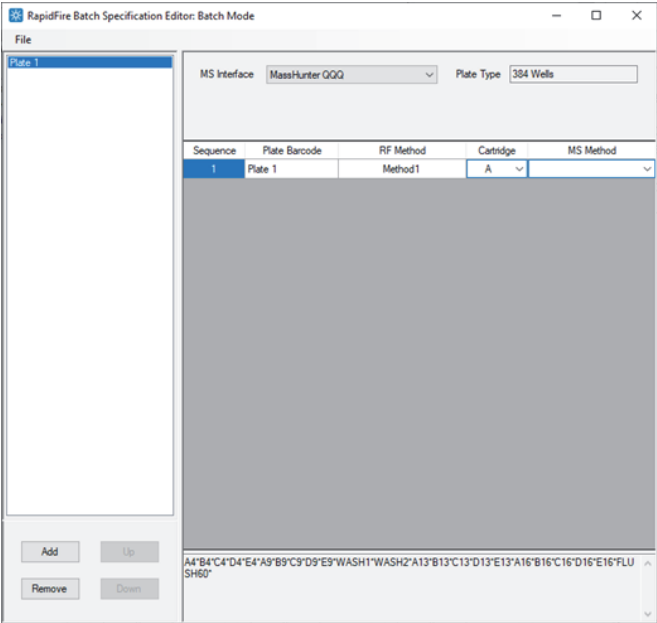
Rush 60 s

Current Sequence

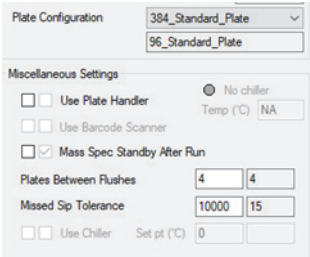
A4 B4 C4 D4 E4 F4 G4 WASH1 A10 B10 C10 D10 E10 F10 G10

To run in Sequence mode:

Step	Details
6	Create or edit a batch. a Click Batch Configuration Tools > Batch Editor. b Create or edit a batch. c Select a RapidFire method, cartridge, and a MS method. d Click File > Save as (file type .rfbat).



- 7 Set the run parameters.
- Select your plate configuration and miscellaneous run settings.

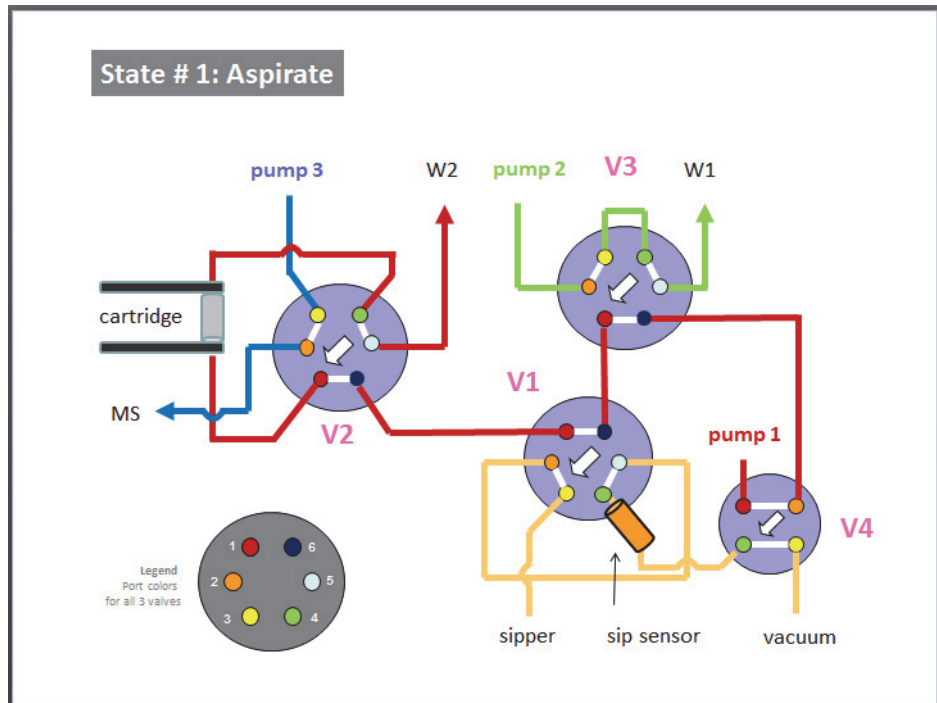


- 8 Start the run.
- Click **File > Load RF batch** (file type .rfbat) and start the run.

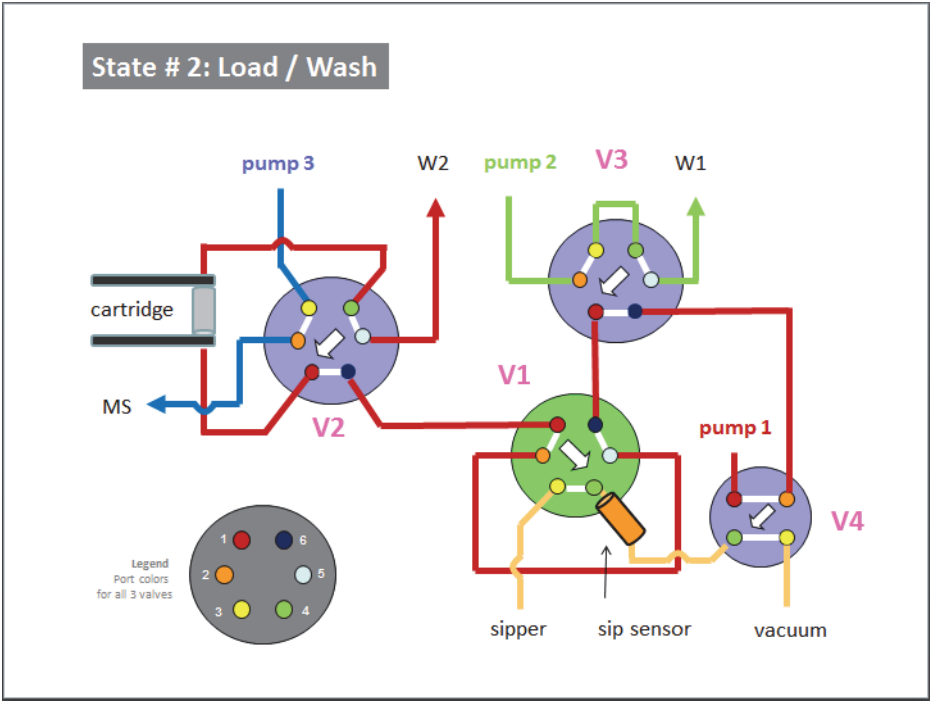


RapidFire 400 System Flow Path

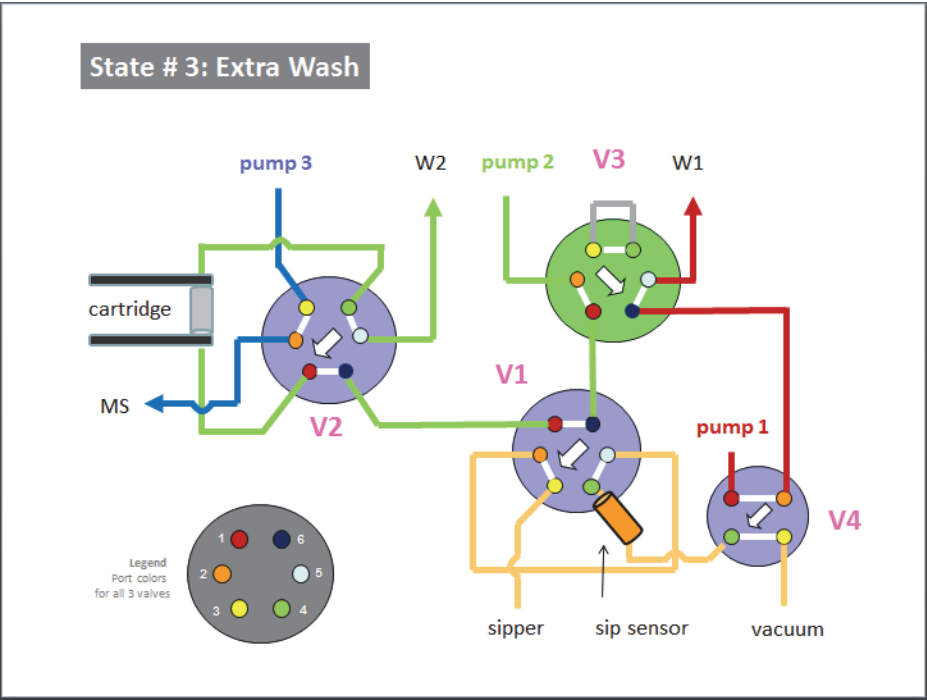
State 1: Aspirate



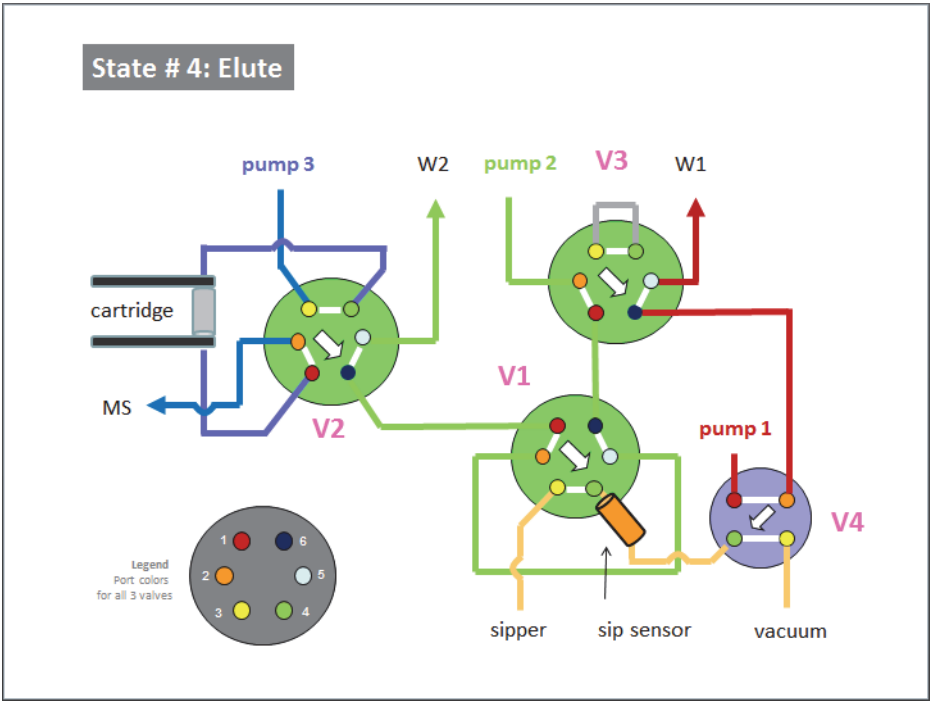
State 2: Wash/Load



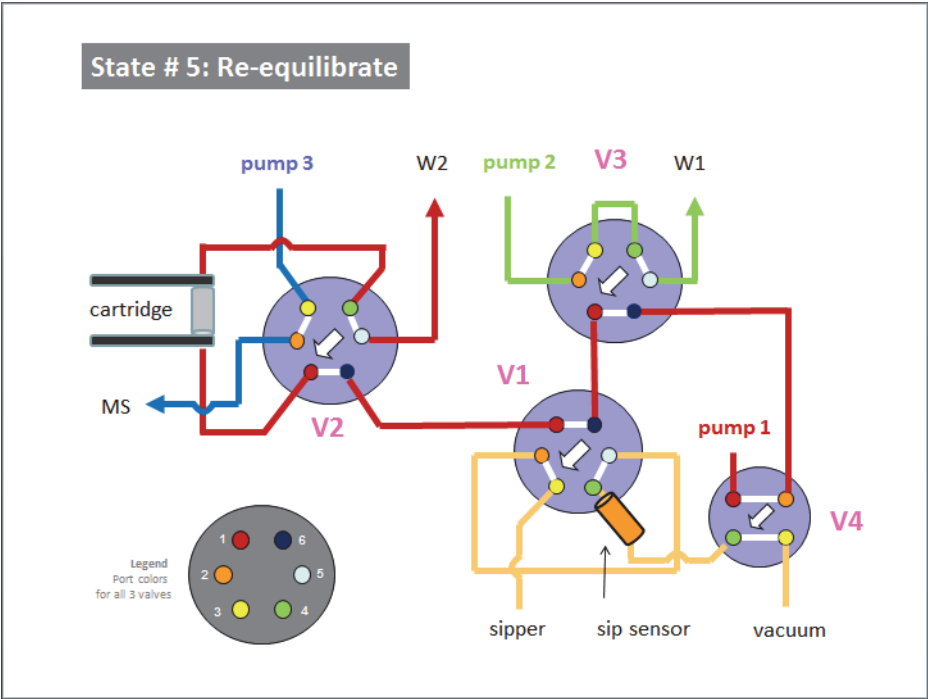
State 3: Extra Wash



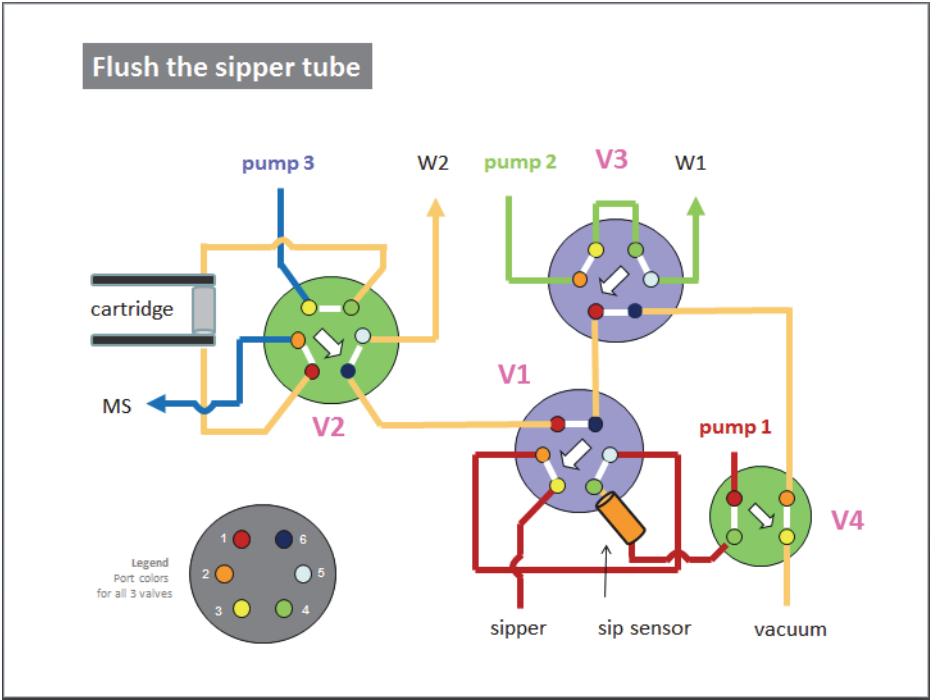
State 4: Elute



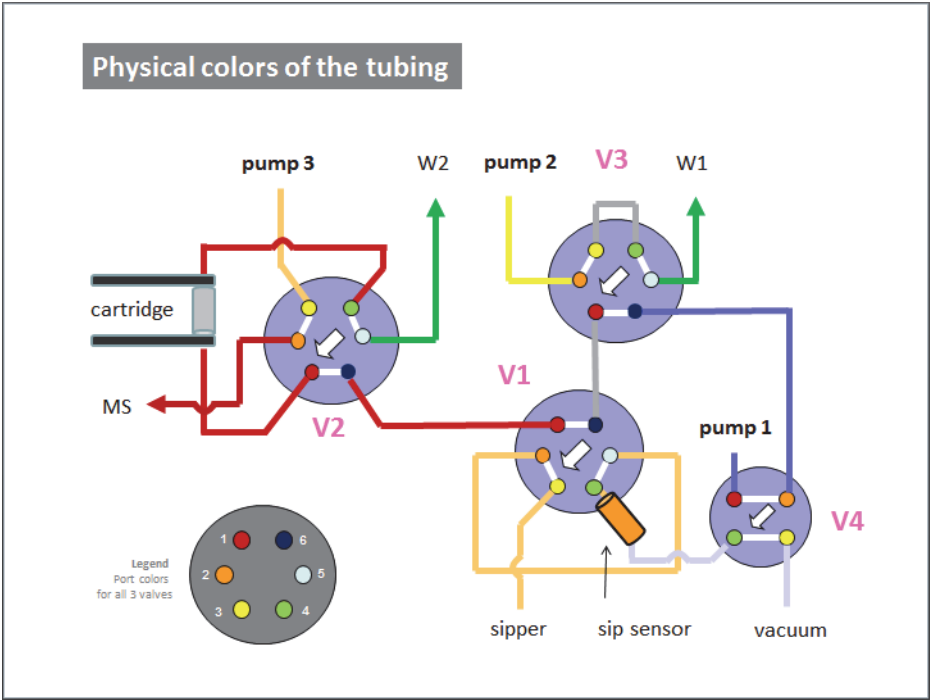
State 5: Re-equilibrate



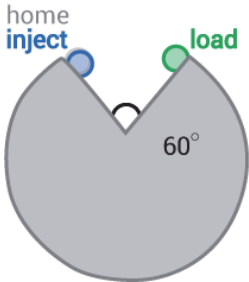
Flush the sipper tube



Physical colors of the tubing



Valve positions



In This Book

This guide gives you a quick overview of the RapidFire 400 System operation.



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