Varian Fluorescence Detector Installation Instructions (920-Series LC)

The optional Fluorescence detector kit P/N 97-100003-90 contains the following parts:

Item #	Description	# of Items
1	Assy cable IEC Mains R/A RH entry	1
2	Bracket tray HPLC	1
3	Screws & Washers	4
4	WASHER SPRING 6.1 ID SS	2
5	Screw M6x8 pan 304 stn st	2
6	Tube 5/16 ID x 1/16 Wall C-Flex	1
7	Molding analy panel upper detector	1
8	Molding analy panel upper det + Oven	1
9	Detector Fluores. L2485V HPLC (890-0586)	1

Procedure:

This procedure is written for a system with a Column Oven. If your system does not have a Column Oven, then disregard any steps using a column oven.

Hardware Upgrade:

1. Remove the Mains power from the system by unplugging it from the rear of the instrument.

2. Once unplugged, remove the left front door from the 920-HPLC system by pushing the doors upwards (*Figure 1*). You need to make sure that the door is closed before trying to remove it. If you meet some resistance then make sure that the door frame clears the hinge (you may need to pry it slightly towards you) (*Figure 2*).

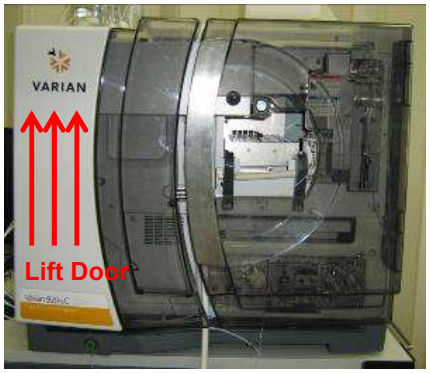

Figure 1: Removing Door

Figure 2: Door Catch

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3. Once the door has been removed, remove the cover of the column oven (**1**) by releasing the thumb screw on the top of the column oven. You will now need to disconnect the plumbing line from the autosampler to the column oven and from the column oven to the detector (**2**) (*Figure 3*).

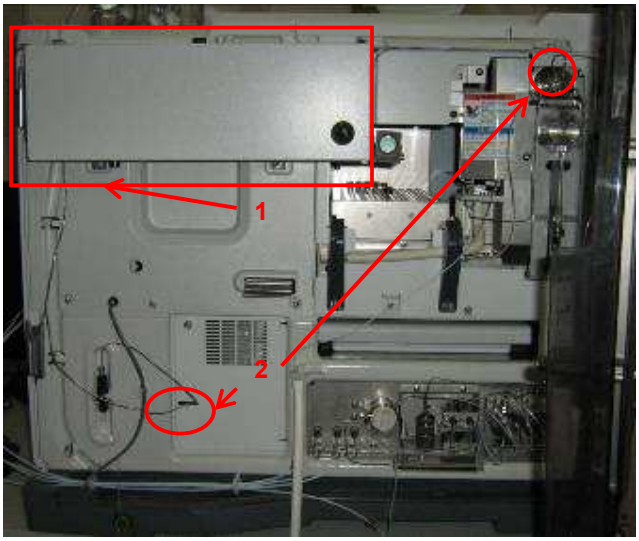

Figure 3: Disconnecting the required plumbing

4. Once the plumbing has been removed, you will then need to remove the column oven (if you do not have a column oven installed skip to Step 5). Remove the column oven by removing the 2 anchoring screws (**3**) on the bottom of the column oven unit (*Figure 4*). Once the screws have been removed you can slide the column oven off by sliding it to the right.

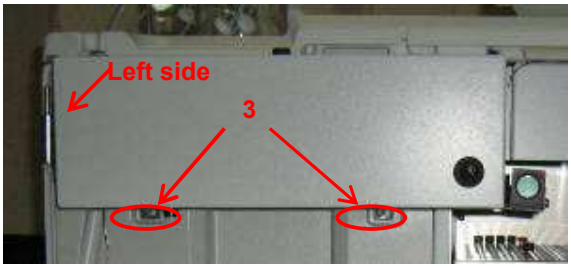

Figure 4: Removing the Column Oven

5. When the column oven has been removed, you will see 3 electrical looms (**4**) (mains power, valve comms, and temperature read-back) connected to the left side (*Figure 5*) of the module. Remove all three looms to completely remove the column oven.

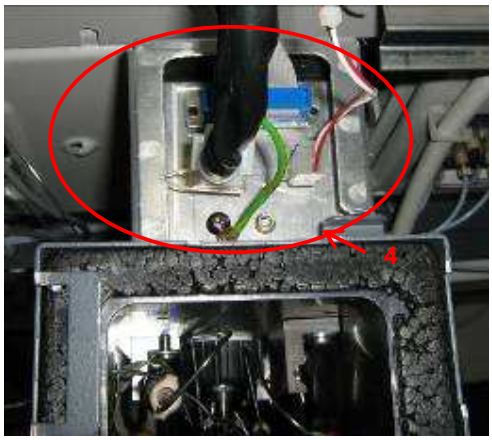

Figure 5: Electrical looms connected to the column oven

6. With the column oven removed, disconnect the leak sensor (**5**) on the front of the 920, disconnect the drain elbow from the autosampler (**6**), and remove the Striker Plate (**8**) with the screw in the bottom right side. You will also need to remove the remaining front panel screw (**7**) (*Figure 6*).

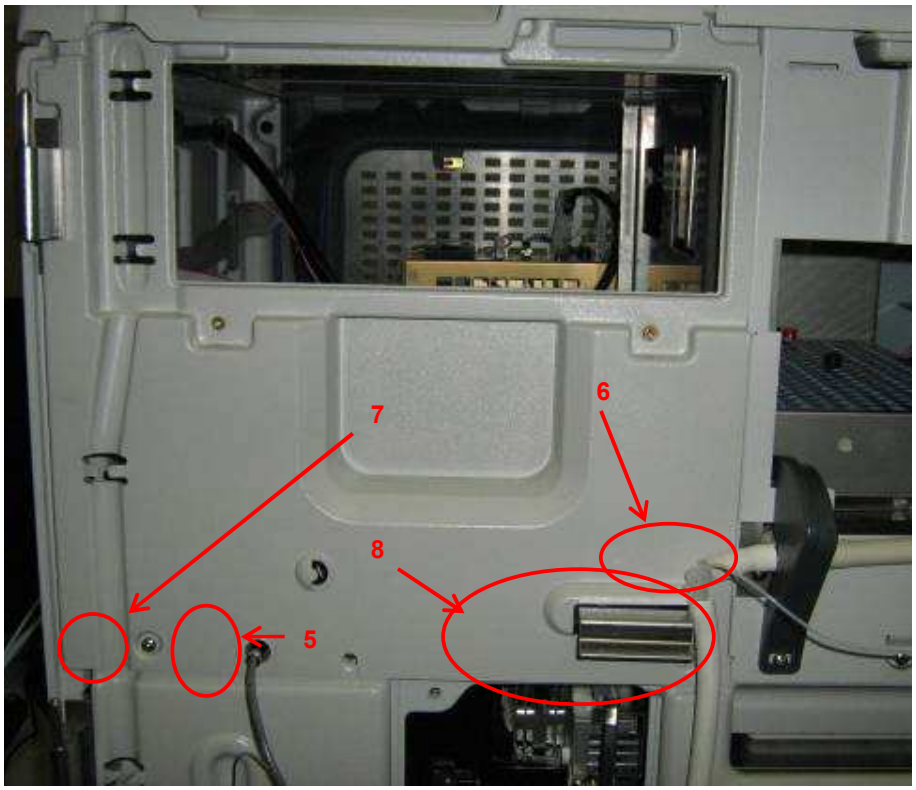

Figure 6: Removing the front panel

7. Once the front panel and the striker plate (**9**) has been removed (*Figure 7*), you can start to unpack your Fluorescence detector kit. Remove the Fluorescence Detector from its packaging.

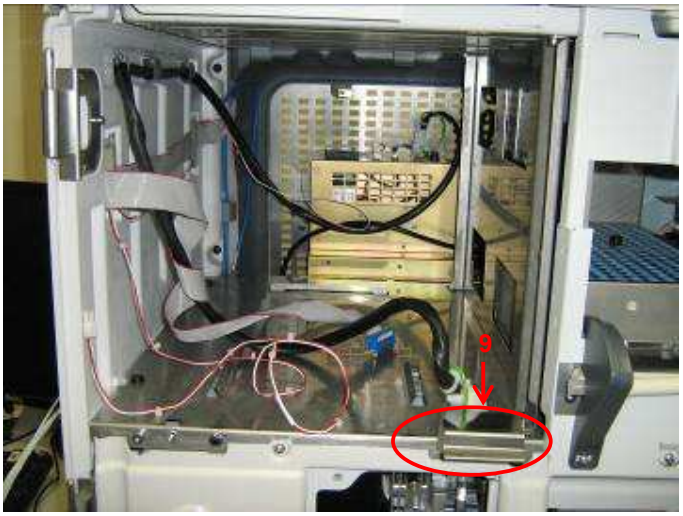

Figure 7: 920 with the front panel removed

8. Remove the rear panel of the 920 Detector by removing the 2 screws (**10**) at the top of the panel (*Figure 8*).

Figure 8: Removing the back panel

9. Fit the Bracket Tray (**11**) to the base of the Detector using the four screws and four washers provided (**12**). Once the tray has been attached, then remove the 3 transport/shipping screws (**13**) from the base of the Detector (*Figure 9*)

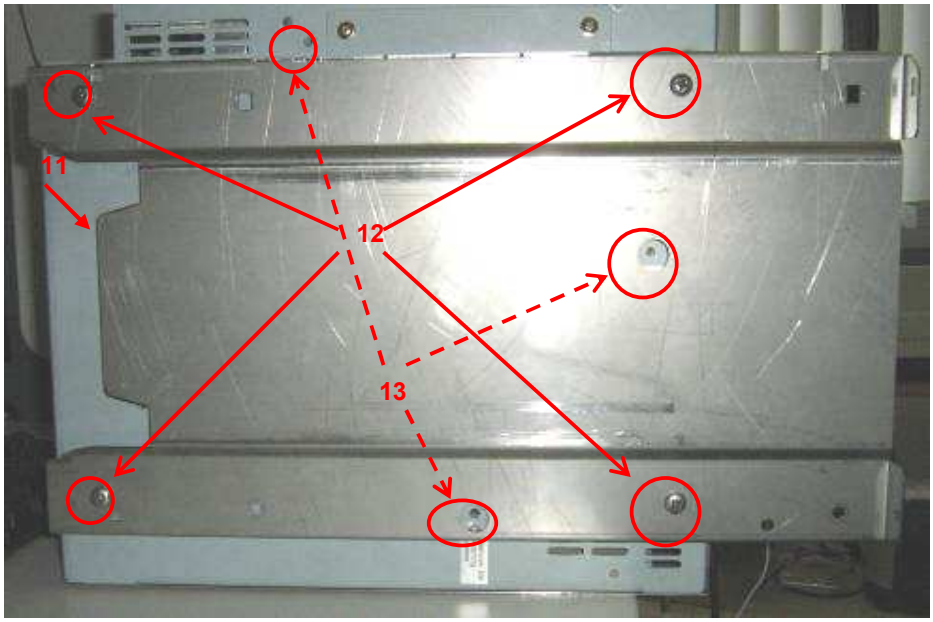

Figure 9: FL base attachment and shipping screw removal

10. Slide the tray with the Fluorescence detector into the top left opening of the 920 system (*Figure 7*). Make sure that the looms for the column oven are safely run along the right side of the box (*Figure 10*), as seen from the back of the instrument, and do not get damaged by sliding in the FL detector.

Figure 10: Fluorescence detector placed correctly into the 920 Module(Pictured from rear of unit)

Figure 11: Plug orientation

11. Once the FL detector is in place slide it over towards the middle of the instrument and attach the E-line cable from the Fluorescence Detector's kit to the top port (**14**) of the detector as shown in (*Figure 11)*.

12. Bolt the Fluorescence Detector and the Striker Plate to the chassis using two M6 screws (**15**) and two spring washers (*Figure 12*).

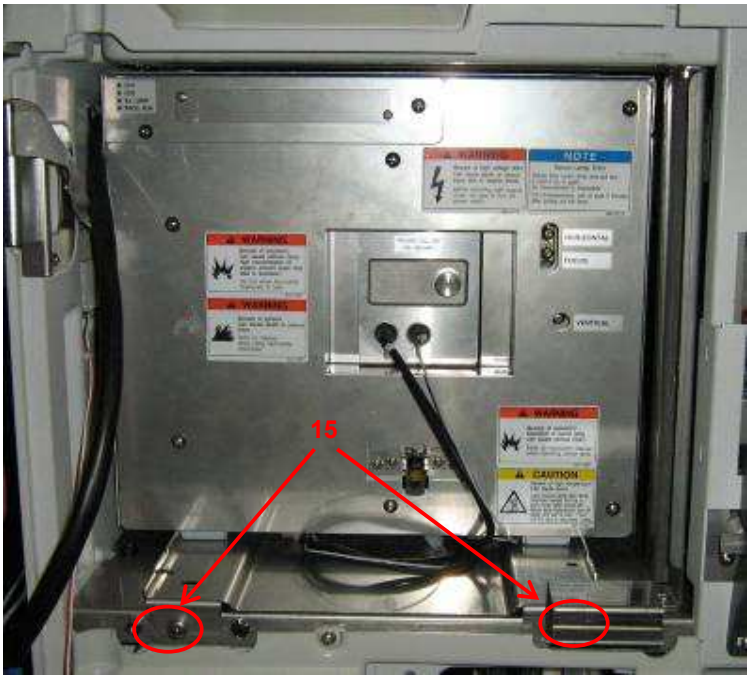

Figure 12: Fitting the Fluorescence detector into the 920

13. Route the E-line cable from the Fluorescence Detector to the **BOTTOM** E-line connector on the Pump (*Figure 13)*.

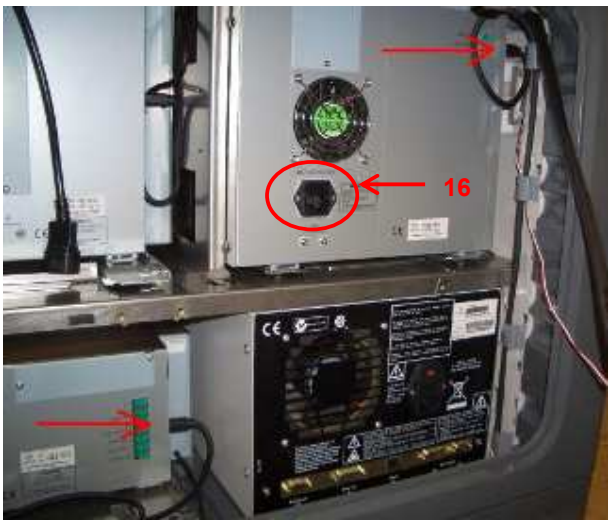

Figure 13: Connecting the FL detector using the E-line cable

14. Install the power cable into the socket (**16**) on the Fluorescence Detector (*Figure 13)*.

15. Connect the other end of the power cable to the Mains Power Distribution Module (*Figure 14)*.

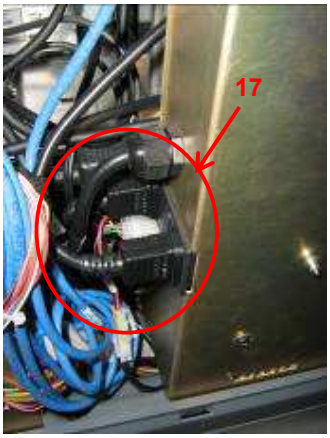

Figure 14: Plugging the FL power cord into the Main Power Module

16. Fit the new front moulding, corresponding to the presence of a column oven or not (item 7 or 8), to the cabinet using two screws (**18**) removed from the old front panel (*Figure 15*). Make sure that you run the 3 electrical looms for the column oven through the cut-out designed to hold the column oven (assuming you have a column oven)

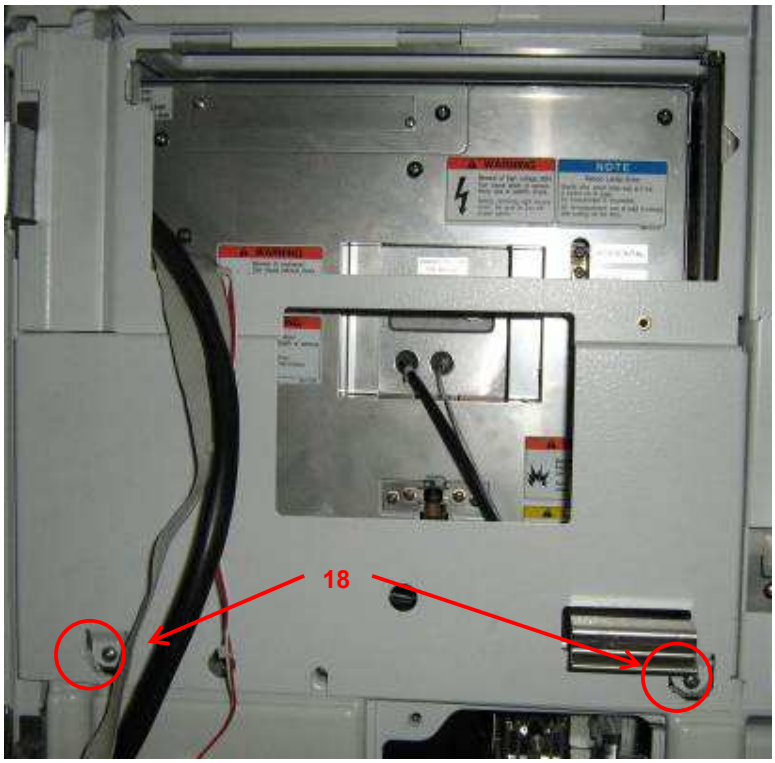

Figure 15: Putting the new front panel onto the 920 system.

17. Reconnect the 3 electrical looms back to the left side of the column oven (*Figure 16*) . Make sure that you connect the grounding wire.

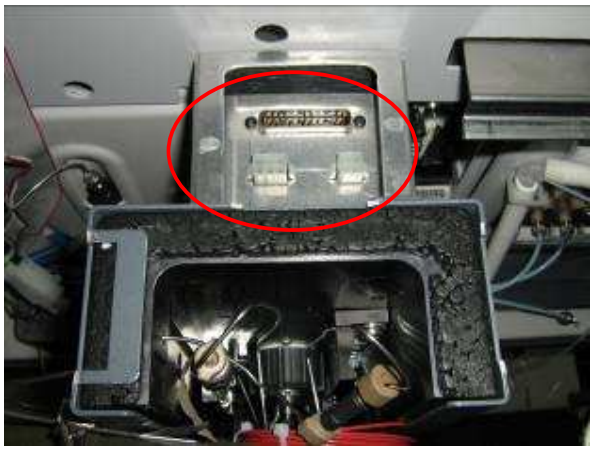

Figure 16: Reconnecting the electronic looms to the column heater

18. Once you have reconnected the column oven, mount it back onto the newly installed front panel. You will need to slide the column oven to the left after inserting the top clip (**19**) and fasten the bottom of the column oven using the 2 screws (**20**) previously removed in step 4.

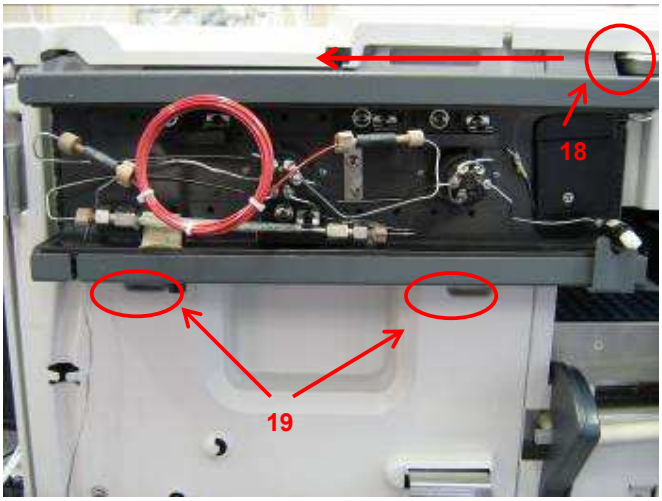

Figure 17: Reattaching the Column Oven

19. Reconnect the plumbing to the column oven (reverse of *step 3*). The tubing coming out of the column oven should connect into the *IN* of the flow cell in the UV/Vis (Absorbance) Detector. The *OUT* of the flow cell is connected to the *IN* of the Fluorescence detector using the black tubing coming from the Fluorescence detector. The *OUT* of the Fluorescence detector then connects to the 40 PSI back pressure regulator which ends up in the waste container (*Figure 18*).

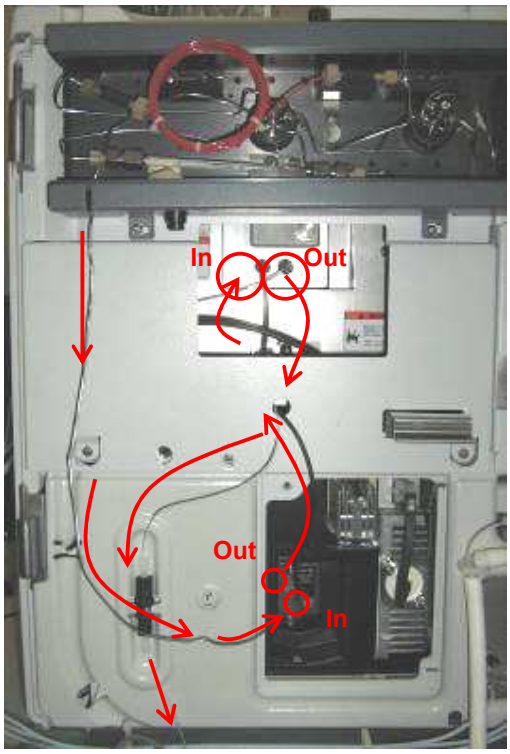

Figure 18: Plumbing the FL detector

20. Reattach the column oven cover (*reverse of step 3*), plug in the leak sensor cable, and then reattach the left door (*reverse of step 2*). The hardware has now been upgraded and you are ready to do the software upgrade.

Software Upgrade:

1. Find the Configurator for Service from the Start Menu/Programs/Varian Integrated HPLC (*Figure 19*).

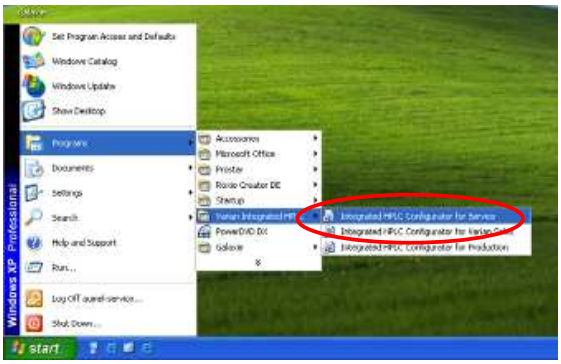

Figure 19: Service Configurator

2. Once the configurator has opened, click on the *Find systems* button (**1**) and wait to see which systems appear. Select the system (**2**) that you want to upgrade (*Figure 20*).

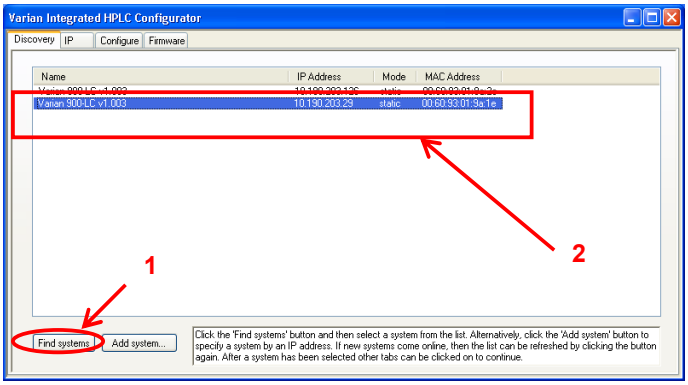

Figure 20: Discovery page of the Service Configurator

3. Once the system has been selected you will be able to choose the *Configure Tab* (**3**). Select the *Update an existing system option* (**4**), and then select next (**5**) as shown in *Figure 21*.

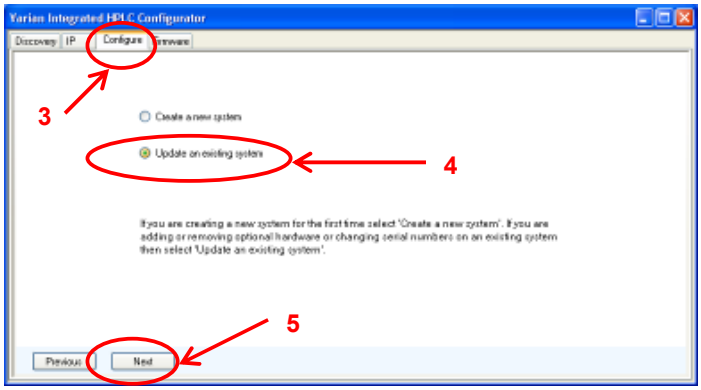

Figure 21: Configure page of the Service Configurator

4. Select the FL detector option (**6**) and press the *Next* (**7**) button (*Figure 22*).

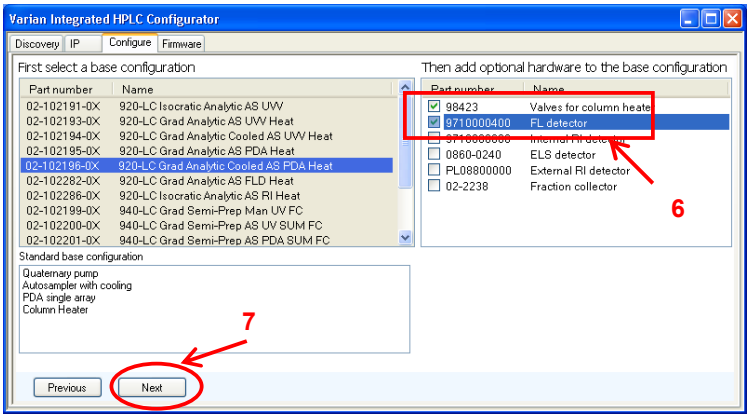

Figure 22: Module selection page in the configure tab

5. You will now see the serial numbers page. There is no need to do anything here except press the *Next* (**8**) button. The FL serial number is read automatically.

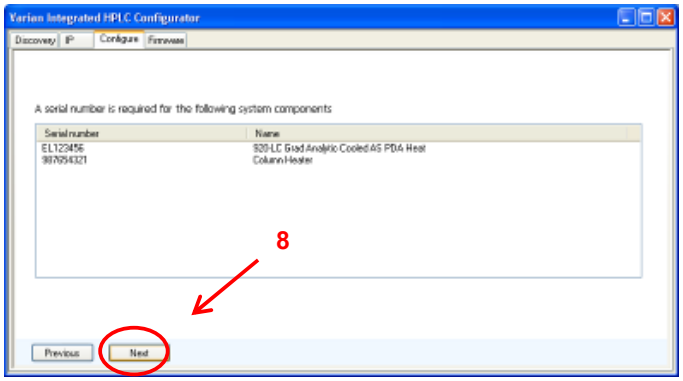

Figure 23: Update serial number page

6. Once the FL detector (**9**) has been added to the system, click the update button (**10**). After the system updates you will see the *All tasks completed window*. Click *OK* (**11**) to that window as well (*Figure 24*).

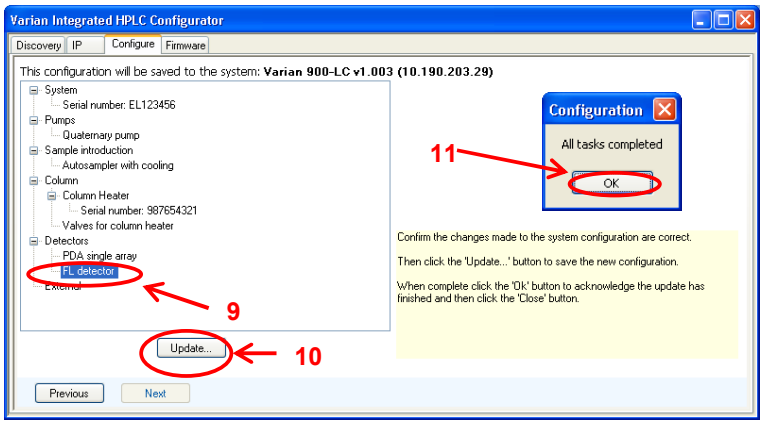

Figure 24: Update system screen

7. Close the window and reboot the computer and the 920-Series HPLC system. Once the system has finished its reboot, you can open the Galaxie software and you should see the newly installed Fluorescence detector (**12**) in the system page (*see Figure 25*). Configure the lamp settings in the System Parameters page, and the system has been successfully upgraded.

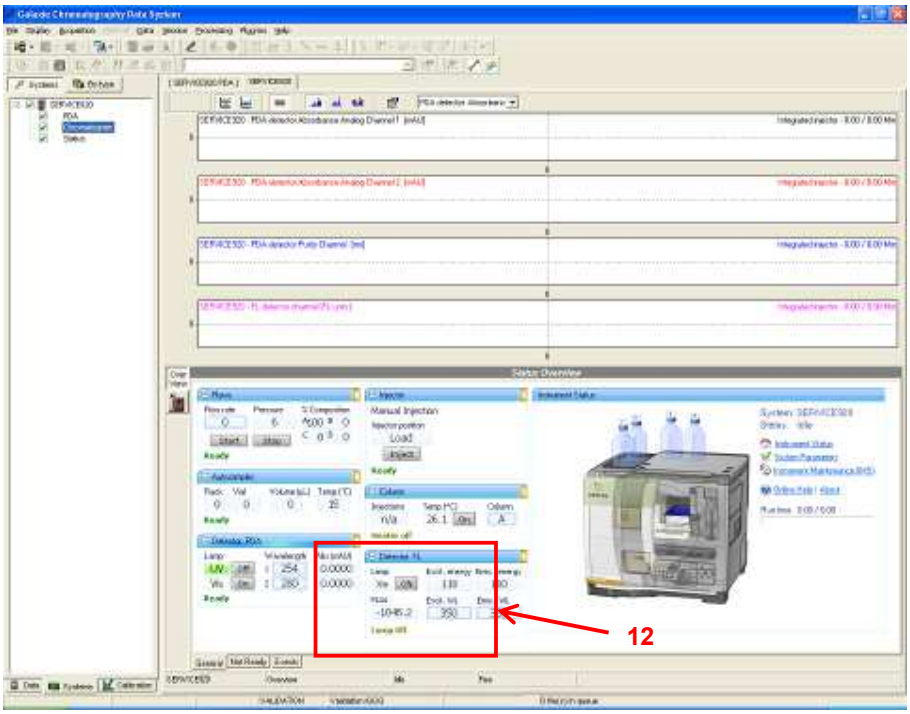

Figure 25: Galaxie system overview page