

# Installing the Column Selector Valve for the ACCQPrep HP125

## Overview

This instruction sheet will guide you through the installation instructions for installing the Column Selector Valve (CSV4) into the ACCQPrep HP125 system. You will need access to the right side and rear of the module. If the system is installed in a hood, it is recommended that it be removed for easier access to the back.

### Tools Required:

- 1/4" wrench
- #2 Phillip s screwdriver
- Diagonal wire cutters

#### **Note**

Before starting the installation procedure, make sure the power switch has been shutoff and the power cord has been removed from the back of the unit.

## Installation of the Switching Valve

1. Remove the valve cover panel located on the right side of the instrument by removing the two screws holding it in place. Save the screws for use in Step 2.



**Figure 1: Panel and location of screws to remove**

2. Slide the switching valve into the opening and fasten into place using the two screws removed in Step 1. Make certain the valve is oriented correctly (Figure 2). There are two additional flat head screws provided if needed.



**Figure 2: Switching valve**

3. Remove the back cover on the ACCQPrep by removing the four screws holding the panel on (Figure 3).



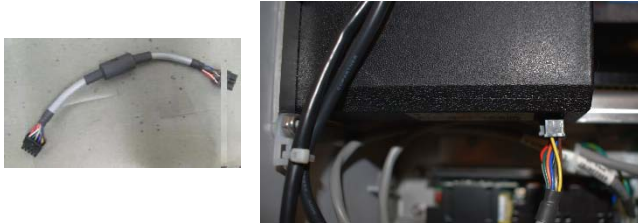
**Figure 3: Back cover of the ACCQPrep**

4. Free the selector valve's signal cable from the back of the side assembly cover panel by carefully cutting the plastic tie with diagonal wire cutters (Figure 4).



**Figure 4: Location of the valve signal cable**

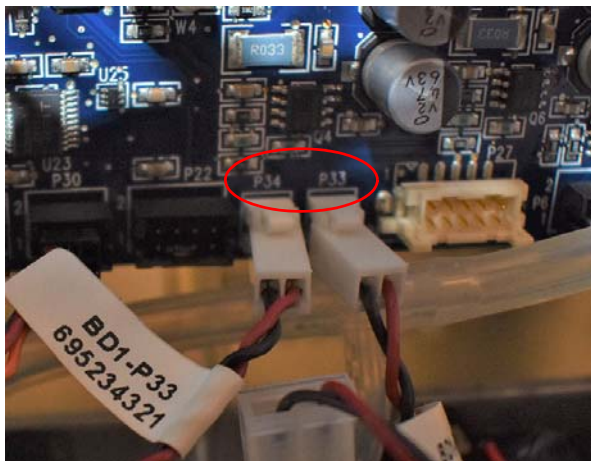
5. Plug the valve cable into the bottom of the selector valve. Either end can be plugged into the valve just ensure it is fully seated (Figure 5).



**Figure 5: Cable and selector valve**

## Installation of Valve Control Module

1. If the power connector is not already installed, one must be attached to the system's main board. In order to do this first locate connector positions P34 and P35 located on the main board. These connectors are at the bottom on the right half of the board (Figure 6).



**Figure 6: Connectors on the main board**

2. Plug the black/red braided cable connector into the open connector. It doesn't matter whether it is P34 or P35. If the braided cable was held in place with the plastic tie discussed in Step 5 of the previous section, this step can be ignored and you can continue to Step 3.
3. Lay the back panel, previously removed, on a flat surface, outside facing down, and orient the four screw holes, where the valve actuator is to be attached, so they are in the lower right quadrant.
4. Orient the valve control module so that the threaded mounting holes are facing the panel and the round connector receptacle for the power supply plug is toward the outer edge and close to the bottom of the back panel.
5. After orienting the control module, securely fasten the valve actuator module to the back panel using screws and washers provided. Start all four screws, as shown, before securely fastening (Figure 7).



**Figure 7: Securing the valve actuator to the back panel**

6. After the control module has been secured, place the bottom of the back panel at the opening and angle the top out so that the three cables can be plugged into the module.
7. Plug the power supply cable and the free end of the valve cable, that was connected to the valve assembly in Step 6 of the previous section, into the actuator control module (Figure 8).



**Figure 8: Actuator Control Module**

8. On the opposite side of the control module connect the small flat connector that was freed in the previous section. The large connector on the valve control module is not used and should remain empty (Figure 9).



**Figure 9: Large connector on the valve control**

- Secure the back panel into place using the screws that were removed in Step 4 of the previous section.

## Installation of Fluid Lines

- Use the 15" piece of tubing that has metal fittings swaged on both ends and attach the end with the "U" bend (Figure 10) into the #6 position on the injection valve. Finger tighten the nut and then turn an additional  $\frac{3}{4}$  turn using a  $\frac{1}{4}$ " wrench.



**Figure 10: "U" bend**

- Create a bend near the middle of the tubing bending the tubing down at an approximate  $45^\circ$  angle. Make a second bend approximately  $1\frac{1}{2}$  inches from the straight end of the tube so that the tube is pointing at the column switching valve input port. This port is on the bottom of the valve midway between column positions labelled 4 and 1.
- Finger tighten the nut and then turn an additional  $\frac{3}{4}$  turn using a  $\frac{1}{4}$ " wrench. The tubing routing end result should be similar to Figure 11.



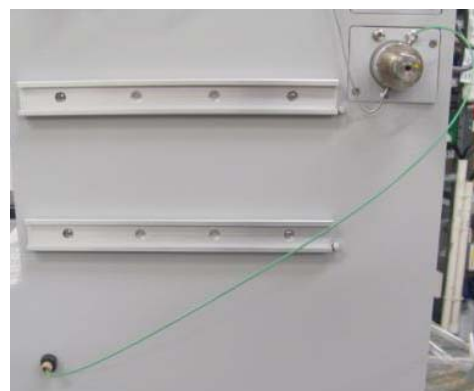
**Figure 11: Tubing routing**

- Locate the clear PTFE  $\frac{1}{16}$ " tube fitted with a PEEK  $\frac{1}{4}$  x 28 flangeless fitting on one end and a stainless steel fitting on the other end.
- Thread and tighten the PEEK nut of the clear tubing provided into the bulkhead fitting on the bottom of the ACCQPrep's right side panel (Figure 12).



**Figure 12: Bulkhead fitting**

- Insert the stainless steel nut into the top port on the column selector valve located between ports 1 and 4 and labelled "OUT". Finger tighten the stainless steel nut and then turn an additional  $\frac{3}{4}$  turn using a  $\frac{1}{4}$ " wrench (Figure 13).



**Figure 13: Output port on the CSV4**

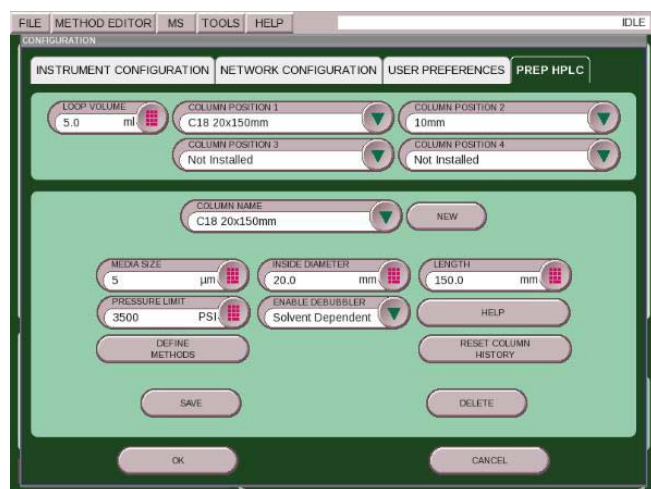
- Columns can now be installed using the tubing kit included in the valve upgrade package.
- Select an appropriate length of tubing, place a stainless steel nut and ferrule on one end and swage into place using one of the column selection valve ports. Finger tighten the nut and then turn an additional  $\frac{3}{4}$  turn using a  $\frac{1}{4}$ " wrench.
- On the other end of the tubing, place a stainless steel nut and ferrule and swage into place using the inlet or outlet of the column. Finger tighten the nut and then turn an additional  $\frac{3}{4}$  turn using a  $\frac{1}{4}$ " wrench.
- The tubing from the inlet of the column should be connected to one of the four positions marked TO COLUMN. The outlet tubing should be routed to the corresponding four positions marked FROM COLUMN.

### Note

Keep in mind that not all four column positions need to be connected. In addition, one position could be used as a column bypass so the system could be flushed between solvent changes.

## Installation Verification

1. Reattach the power cord and turn the power switch to ON. After the system reboots, go to TOOLS | CONFIGURATION and select the PREP HPLC tab.
  - If the valve has been installed properly, you should see inputs for four columns at the top of the screen, this indicates that PeakTrak is communicating with the column select module.
  - If the ACCQPrep does not recognize the presence of the Column Select Valve, only one column input will be shown.



**Figure 14: Configuration screen**

2. Define the columns installed and press OK to exit the configuration screen.

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