



Valve Control Interface for Agilent ChemStation

PC Tech

Agilent Chemstation for HPLC uses a module by module approach in method setting up. Users cannot see method parameters for all the modules at the same time. When a system has more than one pumps or valves, it causes inconvenience in method setting up when users need to refer to parameters of several modules together.

This software serves as an interface between the Chemstation and the users for an easy method setup for valve involved applications.

Working principle

The software extracts method parameters relevant to valves and pumps from ChemStation and displays them together and in a graphical way for easy observation. Users can also use the software to build a method and then export the parameters into ChemStation.

The screenshot shows the 'Valve Control Interface' software window. At the top, there are menu options: 'Import Data', 'Export data', and 'Simulation'. Below the menu is a schematic diagram of a chromatography system with two pumps and two valves. The flow rate is indicated as 1.51 and 1.01. Below the diagram are four data tables:

Valve 1	
Time	Position
0.00	1
0.50	2
1.00	1

Pump 1				
Time	%B	%C	%D	Flow
0.00	10.0	0.0	0.0	1.50
10.00	90.0	0.0	0.0	1.50
20.00	10.0	0.0	0.0	0.50

Valve 2	
Time	Position
0.00	1
1.50	2
2.00	1
5.00	1

Pump 2				
Time	%B	%C	%D	Flow
0.00	25.0	0.0	0	2.00
1.00	50.0	0.0	0	2.00
5.00	90.0	0.0	0	2.00
10.00	10.0	0.0	0	2.00

Below the tables are input fields for solvent names:

1 = 2 =

A = B = C = D =

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The software works just as an interface. It does not change the operation of Chemstation. When the parameters are imported into ChemStation, they are treated the same way as they are entered directly inside the ChemStation.

The interface and the Chemstation communicate with each other through a hot link. When a method is changed in Chemstation, the interface software will detect the change and get updated. When a run is started in Chemstation, the interface software will follow the progress of the run and make corresponding change of the valve diagrams according to the method.

Features

1. Parameters for all pumps and valves are displayed together for easy method setting up.
2. A valve diagram is provided to illustrate the application principle. The diagram is updated with the run progress according the time table.
3. A simulation function is provided. Users can simulate a run by clicking at the scroll bar to see if the method is working as expected.
4. Easy set up. The interface will build macros into Chemstation to enable dynamic data exchange. The data exchange does not need a spreadsheet as normally required by ChemStation.
5. The valve diagram can be customized according to applications.