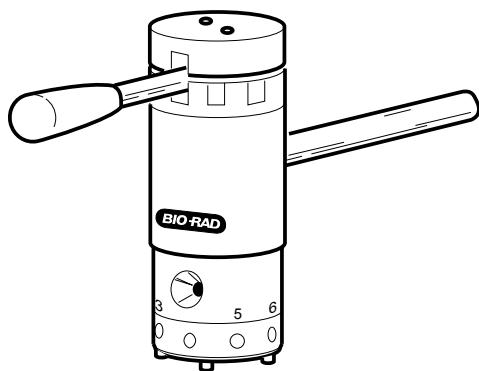


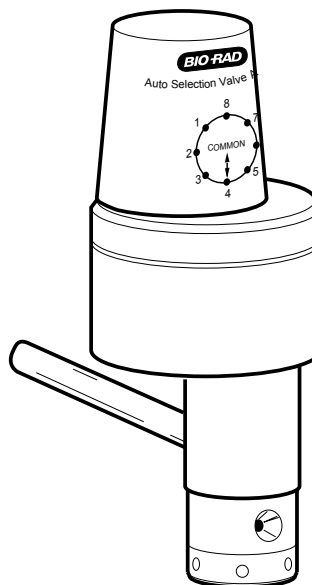
## ***V9-8 MANUAL AND AV9-8 AUTOMATED STREAM SELECT VALVES***

**CATALOG NUMBERS 750-0403 AND 750-0408**

The Model V9-8 and Model AV9-8 Stream Select Valves are high pressure, 9-port, 8-position valves for stream selection. The valves are rated at 1000 psi (max.). The 8 ports (labeled 1 through 8) provide bi-directional fluid flow. The ninth port is the central common port located at the base of the valve. The fluid pathway is chosen either by manually turning the valve arm on the Model V9-8 until the port indicator window shows the desired port or by initiating a command from the Controller to the Model AV9-8. Note that for the AV9-8 the default position at system power up or at the conclusion of a run, is position 1 (Ports 1 and 9 connected). Refer to the BioLogic Instruction Manual for discussion of software control of the valve.



**V9-8 MANUAL  
STREAM SELECT VALVE**



**AV9-8 AUTOMATED  
STREAM SELECT VALVE**

### **Connection to the BioLogic Rack and Workstation**

Model V9-8 and AV9-8 Stream Select Valves mount to the Rack using the supplied bar and clamp. An Allen wrench is included to secure the clamp and valve to the rack.

The Model AV9-8 Automated Stream Select Valve is powered and controlled by the Bio-Logic Workstation. Connect the signal cable for this valve to any of the connectors labeled Automated Valves, connectors 4, 5 or 6.

The Model V9-8 Manual Stream Select Valve is not connected electrically to the BioLogic System.

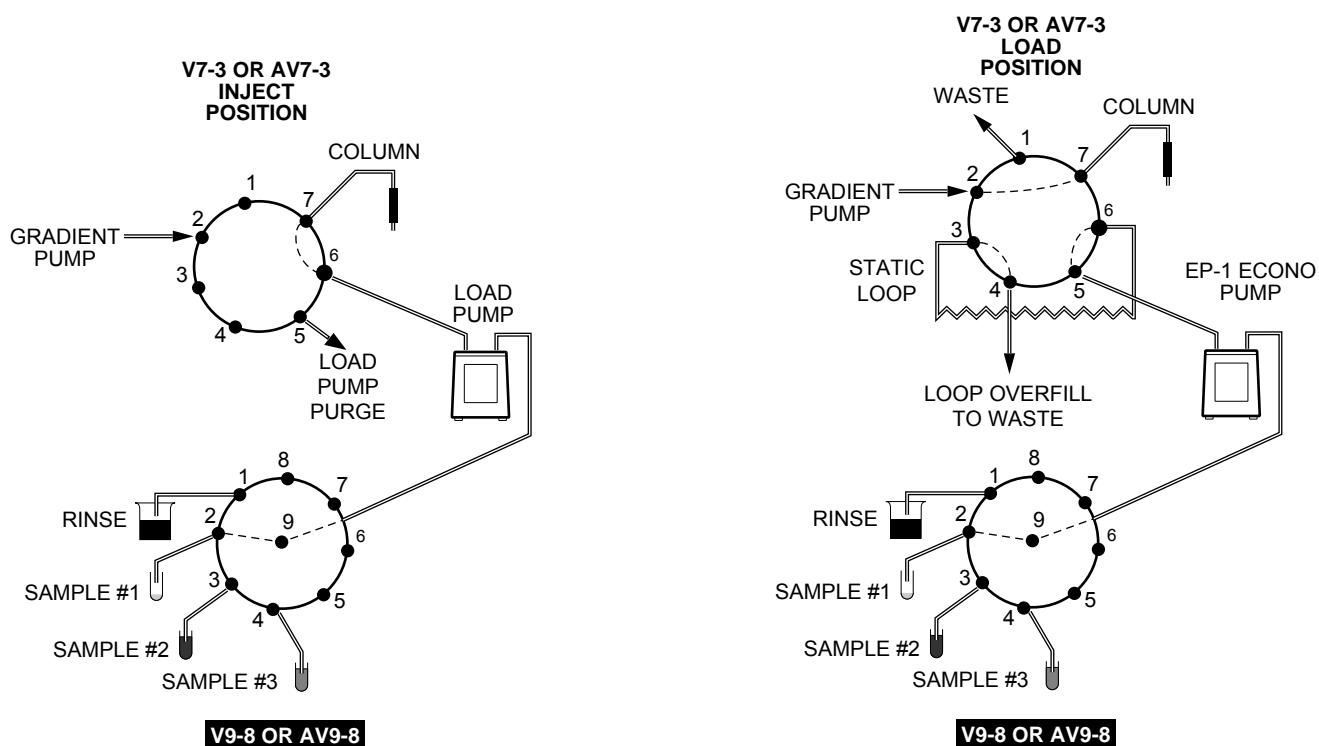
## Valve Plumbing

Both the V9-8 and AV9-8 valves accept 1/4-28 flat bottom fittings, and either 1/16" OD/0.020" ID Tefzel tubing or 1/8" OD, 0.062" ID PTFE tubing may be used. To maintain bio-compatibility, all wetted parts are non-metallic. The V9-8 and AV9-8 Stream Select valves have numerous uses as part of a chromatography system, and this will determine the plumbing. Three examples are provided in the following pages.

Note: Always manually prime all pre-column valves before initiating a run. Failure to displace air with buffer could stall the BioLogic Gradient Pumps or lead to erratic flow.

### Example 1. Sample Selection.

The AV9-8 may be used for selecting up to 8 samples for consecutive chromatography runs. Typically, one of the eight positions holds a rinse solution to clean the sample loop and fill lines between sample injections. For this example, 1/16" OD/0.020" ID Tefzel tubing is recommended.



LOADING DIRECTLY ONTO A LOW PRESSURE COLUMN

USING A PERISTALTIC PUMP TO FILL A STATIC LOOP

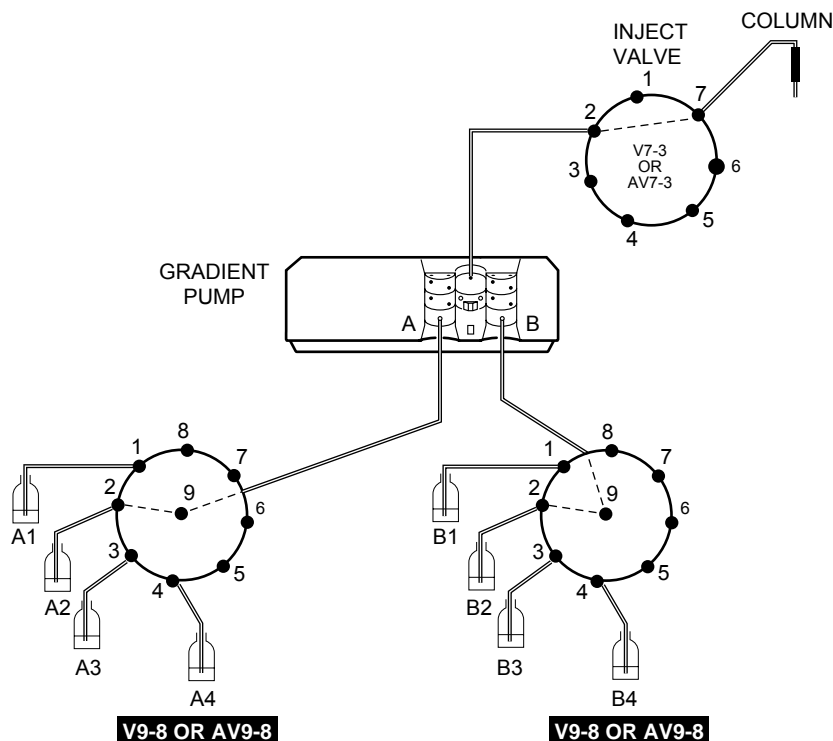
In the illustration above, the following two configurations are shown:

- Using a peristaltic pump to load directly onto a column: To load samples onto a column with low backpressure, bypass the sample loop and directly load sample from the Model EP-1 Econo Pump onto the column.
- Using a peristaltic pump to fill a static loop: The system can be configured so that the Model EP-1 Econo Pump automatically loads the sample loop. Load at least a 3-fold excess of sample into a static loop with the peristaltic pump. This helps to ensure that the sample loop is completely filled with sample prior to injection.

## Example 2. Buffer Selection

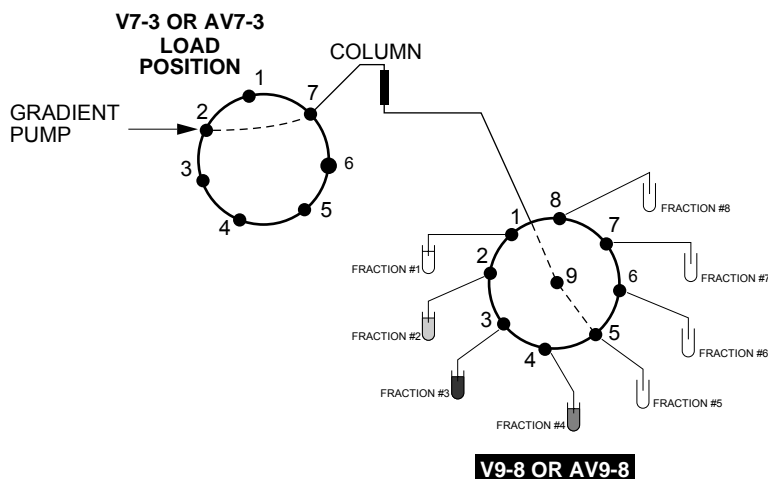
Placed upstream of the BioLogic Gradient Pumps, the V9-8 or AV9-8 allows selection of up to 8 different solutions. When used in this manner, buffers for different types of chromatography and for column sanitation may be used as part of an automated separation procedure. For an ion exchange separation, often several buffer systems with different pH conditions are used to optimize a separation. By using the 8-ports, eight different buffering systems are set up for evaluation. An example of this configuration is shown below. For this example, 1/8" OD / 0.062" ID PTFE tubing is recommended.

**NOTE:** During valve position changes, either stop the Gradient Pump or run the Gradient Pumps at a slow flow rate (<1 ml/min). Failure to do so could lead to generation of air bubbles in the Gradient Pumps.



### Example 3. Fraction Collection.

Placed downstream of a column, the V9-8 or AV9-8 may be used as an eight-place fraction collector either for separations which generate large volume fractions or separations where a fraction collector is not appropriate. For this example, 1/16" OD/0.020" ID Tefzel tubing is recommended.



### Valve maintenance and repair

Model V9-8 and AV9-8 valves should be rinsed with water following use with aqueous buffers, or 20% ethanol following use with non-aqueous solutions. Never allow salt solutions to dry inside the valve. For repair of Model V9-8 and AV9-8 valves, contact your local Bio-Rad office.

### Ordering Information

|          |                                           |
|----------|-------------------------------------------|
| 750-0403 | Stream Select Valve, V9-8                 |
| 750-0408 | Automated Stream Select Valve, AV9-8      |
| 750-0602 | 1/16" OD/0.020" ID Tefzel tubing, 30 feet |
| 750-0603 | 1/8" OD/0.062" ID PTFE tubing, 15 feet    |