

BioLogic DuoFlow Chromatography Systems



BioLogic DuoFlow™ Valves

Expand Your Application Potential with
Versatile and Reliable BioLogic DuoFlow Valves



Making the Valve Connection

With Flexible Setup, Expanding Applications, and Software-Automated Functions



The numerous valve options available for the BioLogic DuoFlow Chromatography Systems easily accommodate simple to complex laboratory experiments. Valves can be easily added and programmed to expand the BioLogic DuoFlow System's capabilities, ensuring that you will always be able to run the experiments you need.



SV5-4 Valve

A 5-port, 4-way low-pressure valve for:

- Selecting from up to 4 buffers or solutions
- Autosample loading from up to 4 samples directly onto a column or into an injection loop



SVT3-2 Valve

A 3-port, 2-way low-pressure valve for:

- Selecting from 2 buffers or solutions
- Loading from 2 samples directly onto a column or into an injection loop
- Diverting buffer flow



AVR7-3 Sample Inject Valve

A 7-port, 3-way high-pressure valve for:

- Loading samples into a static loop or a DynaLoop™ Dynamic Loop for injection onto a column
- Reverse-flow applications
- Switching between 2 columns



AVR9-8 Select Valve

A 9-port, 8-way high-pressure valve for:

- Selecting from up to 8 buffers or solutions
- Autosample loading from up to 8 samples directly onto a column or into an injection loop
- Switching among 8 columns
- Collection of large-volume fractions

Flexible Setup Leads to Optimized Results

The flexible setup design of the BioLogic DuoFlow System allows you to position valves for easy access and improved results. For example, place the sample valve outlet close to the column inlet for improved sample resolution.

Expanding Applications Through Valving Options

BioLogic DuoFlow Systems are easily upgraded to meet your changing applications with valve additions. A total of 6 valves (3 low pressure and 3 high pressure) can be used at one time, allowing you to run more complex methods. Additionally, by adding a BioLogic Maximizer™ Valve System, the number of valves is doubled to 12 (6 low pressure and 6 high pressure).

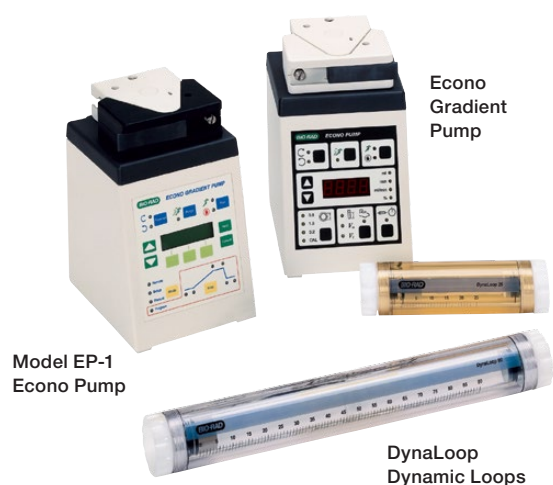
Intuitive Software Automates Valve Functions

The easily programmed BioLogic DuoFlow Software incorporates valve functions into a method and allows each valve to be uniquely named to reflect its function.

Valve Applications

Flexible Sample Loading Options

- Basic AVR7-3 Sample Injection Valve operation using load, inject, and purge positions
- DynaLoop Dynamic Loops for large-volume sample loading or repetitive injections of smaller volumes
- Combination of a peristaltic pump, Model EP-1 Econo™ Pump, or Econo Gradient Pump with an inlet valve for:
 - Autosampling with automated loop fill and rinse
 - Sample loading directly onto a low-backpressure column
 - Repetitive loading of portions of large sample onto a column



Multiple Buffer Selection

- Automated selection of multiple buffers, solutions, or samples

Column Switching

- Automated switching between multiple columns
- Column scouting to compare separation characteristics within method

Reverse Flow

- Elution of compounds bound to the top of a column by reverse flow

Large-Volume Fraction Collection

- Collection of 2–8 large-volume sample fractions without a fraction collector

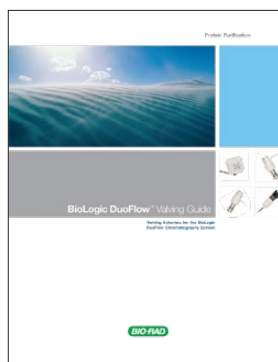
Multidimensional Chromatography

- Automatic collection of selected fractions from one column and injection onto a second or third column

The Make-Before-Break Advantage

The unique make-before-break design of the high-pressure valves rotates the inlet/outlet ports in a sequence that keeps the flow rate constant during port changes to:

- Prevent pressure spikes that cause baseline interference
- Prevent pump shutdowns from overpressure occurrences
- Protect fragile low-pressure columns and flow-sensitive detectors



Detailed schematics of valve-based applications are provided in the BioLogic DuoFlow Valving Guide (bulletin 2584 and on the Web at bio-rad.com) and the BioLogic DuoFlow Software Help screens.

Valve Specifications

Valve	Type	Ports	Pressure Rating	Fitting	Tubing size
SV5-4	Low-pressure solenoid, 4-way stream selection valve	5 ports 4 positions	30 psi (2 bar)	1/4–28	1/8" (3.2 mm) OD
SVT3-2	Low-pressure solenoid, 2-way flow diversion or stream selection valve	3 ports 2 positions	30 psi (2 bar)	1/4–28	1/8" (3.2 mm) OD
AVR7-3	High-pressure, 3-way (load, inject, and purge) valve	7 ports 3 positions	3,500 psi (233 bar)	1/4–28	1/16" (1.6 mm) OD
AVR9-8	High-pressure, 8-way stream selection valve	9 ports 8 positions	3,500 psi (233 bar)	1/4–28	1/16" (1.6 mm) OD

Guaranteed Reliability

Thousands of BioLogic DuoFlow Valves are in daily use worldwide. Composed of biocompatible PEEK polymer with no metallic parts, the valves are compatible with a wide range of buffers, salt solutions, and solvents (1.0 M salt to 100% acetonitrile) to accommodate any application requirement.

Ordering Information

Catalog #	Description	Catalog #	Description
BioLogic DuoFlow Valves		BioLogic Dynamic (Sliding Piston) Loops	
760-0406	AVR7-3 Automated Sample Injection Valve , 7-port, 3-position high-pressure valve, 3,500 psi (233 bar) limit	750-0450	DynaLoop Parts Kit , includes 4 end cap O-rings, 1 sliding seal O-ring, 1 filter, 4 nut fittings, four 1/8" ferrules, five 1/4–28 nuts and ferrules, 10' of 1/8" PTFE tubing
760-0401	AVR7-3 Valve Rebuild Kit	750-0451	DynaLoop 25 Kit , includes 25 ml DynaLoop Sliding Piston Loop, DynaLoop Parts Kit, instructions
760-0408	AVR9-8 Stream-Select Valve , 9-port, 8-position high-pressure valve, 3,500 psi (233 bar) limit	750-0452	DynaLoop 90 Kit , includes 90 ml DynaLoop Sliding Piston Loop, DynaLoop Parts Kit, instructions
760-0403	AVR9-8 Valve Rebuild Kit	750-0455	DynaLoop Sliding Seal Replacement
760-0410	SVT3-2 Diverter Valve , 3-port, 2-position solenoid valve, 30 psi (2 bar) limit	750-0475	DynaLoop 25 Sample Loop , 25 ml replacement
760-0411	SVT3-2 Valve Rebuild Kit	750-0476	DynaLoop 90 Sample Loop , 90 ml replacement
750-0415	SV5-4 Select Valve , 5-port, 4-position solenoid valve, 30 psi (2 bar) limit	Econo Gradient Pump	
BioLogic Single Injection Sample Loops		731-9001	Econo Gradient Pump , 100/120 V, includes tubing and fittings kit
750-0471	Sample Injection Port	731-9002	Econo Gradient Pump , 220/240 V, includes tubing and fittings kit
125-0224	Injection Needle , 22 gauge, blunt	Contact your local Bio-Rad representative or visit us on the Web at bio-rad.com for more information.	
750-0490	Small-Volume Sample Loop Kit , includes 100, 250, and 500 µl PEEK Loops	PEEK is a trademark of Victrex PLC. Tefzel is a trademark of E.I. du Pont de Nemours and Co.	
750-0491	Large-Volume Sample Loop Kit , includes 1, 2, and 5 ml PEEK Loops		
750-0482	25 µl Tefzel Sample Loop		
750-0483	50 µl Tefzel Sample Loop		
750-0492	100 µl PEEK Sample Loop		
750-0493	250 µl PEEK Sample Loop		
750-0494	500 µl PEEK Sample Loop		
750-0495	1 ml PEEK Sample Loop		
750-0496	2 ml PEEK Sample Loop		
750-0497	5 ml PEEK Sample Loop		



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