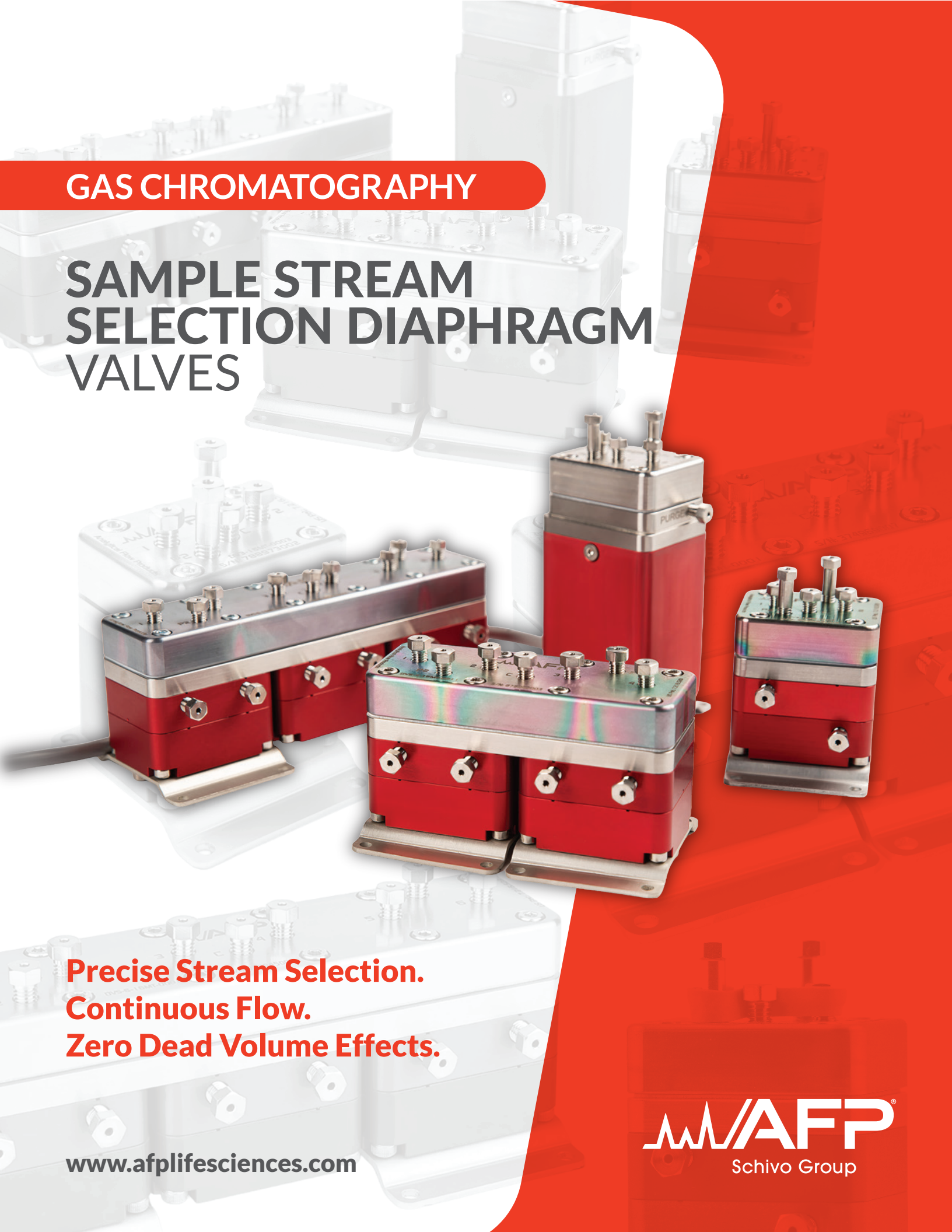




GAS CHROMATOGRAPHY

SAMPLE STREAM SELECTION DIAPHRAGM VALVES

**Precise Stream Selection.
Continuous Flow.
Zero Dead Volume Effects.**

www.afplifesciences.com

AFP[®]
Schivo Group

DV SERIES

AFP's Sample Stream Selection Diaphragm Valves deliver precise, reliable flow control for demanding gas chromatography applications.

Independent port control, a continuously swept flow path, and the elimination of dead volume effects enable efficient sample stream selection, while optional purge features help prevent inboard and outboard contamination, fugitive emissions, and permeation to protect sample integrity. With tight positive port shut-off and 100% leak testing, these valves provide dependable performance across a wide range of GC sampling and analytical systems.

.....

Engineered as a true analytical-grade, tight shut-off diaphragm valve, this high-performance design provides reliable flow control and positive shut-off across a wide range of analytical applications, including gas chromatography systems, autosamplers, sample handling, and general instrumentation.

.....

No dead volume effects, continuous flow path and purge systems make it ideal in many situations. From simple three-way to complex configurations with timing sequences, the job is easily done.

Features and Benefits

- Purge feature to prevent inboard/outboard contamination, fugitive emissions and permeation through the diaphragm (optional)
- 100% leak tested
- Elimination of dead volume effects
- Continuously swept flow path
- Tight positive port shut-off design
- Working pressures from vacuum to 1000 psig (or more)
- Usable with liquid or gas media
- Low pressure drop
- Independently controlled ports

Fields of Application

- Gas Chromatography / Liquid Chromatography / GCMS / LCMS
- On-line gas analyzer / various sampling systems
- Automated laboratory sample injection systems
- Sample preparation systems / sample concentration systems
- Continuous flow analyzer
- Purge and trap GC sampler / headspace sampling
- Total organic compound analyzer
- Automated process analyzer panel
- Refining and hydrocarbon analyzer / natural gas analyzer
- Ion chromatographic systems

Available in a wide range of configurations, from simple pneumatic actuation to advanced microprocessor-controlled electrical actuation. The valve head is constructed from 316L stainless steel and is available with SilcoNert® 2000 or Dursan® coatings for enhanced inertness and chemical resistance.



DV3-SERIES

3-WAY diaphragm valve

Positive port shut-off diaphragm valve

DV3-SERIES

Pneumatic Actuation



EDV3-SERIES

Electronic Actuation

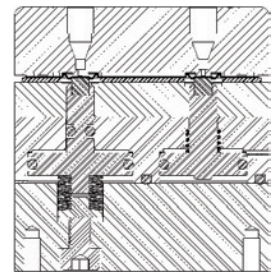
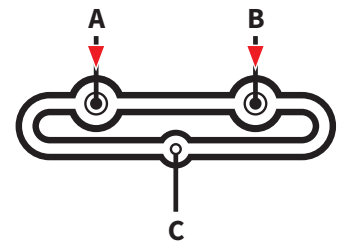
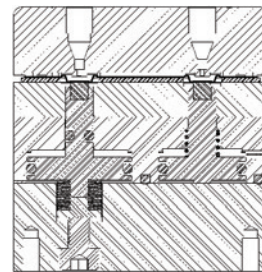
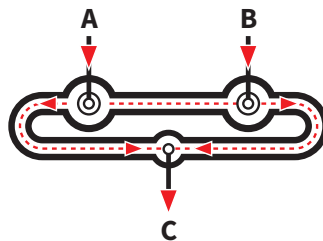
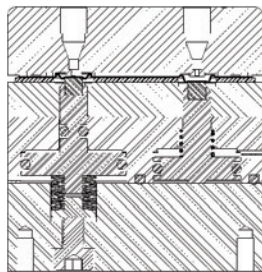
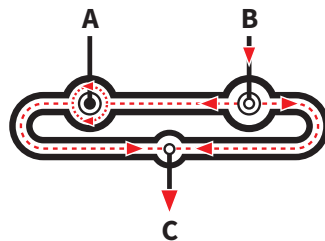
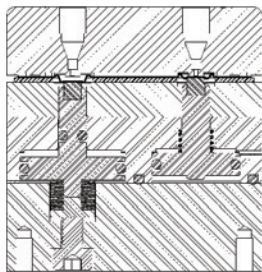
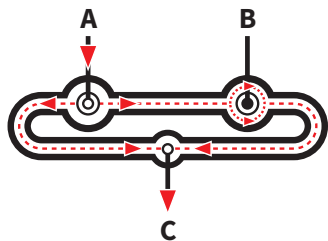


Figure 1A:

Port A open and B closed

Figure 1B:

Port A closed and B open

Figure 1C:

Both ports open

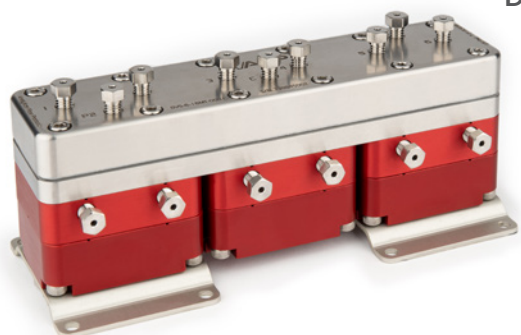
Figure 1D:

Both ports closed

DVS-SERIES

Sample stream selection diaphragm valve

DVS-SERIES



DVS-6 Pneumatic
actuation
ON/OFF
configuration

DVS-4 Pneumatic
actuation
ON/OFF
Configuration



EDVS-SERIES



EDVS Electronic
actuation
ON/OFF
configuration

ON/OFF stream configuration

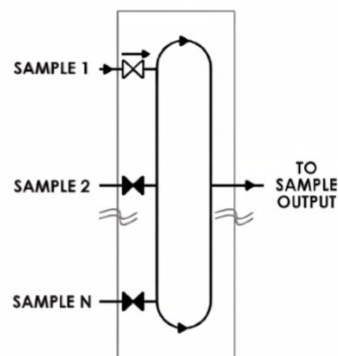
Single stream operational state #1



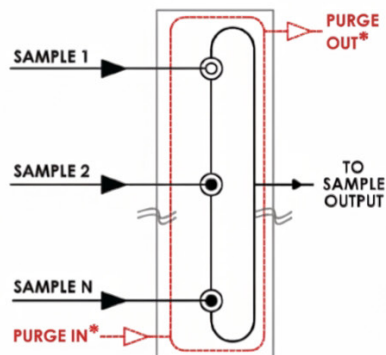
Single stream operational state #2



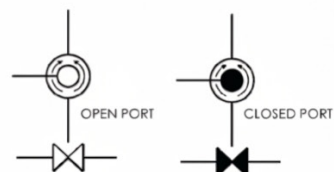
Multiple stream flowpath schematic



Multiple stream physical flowpath



- All channels built on the same substrate
- Internal fast loop included



US.PAT.: 7,216,528

* PURGE IS AVAILABLE AS AN OPTION

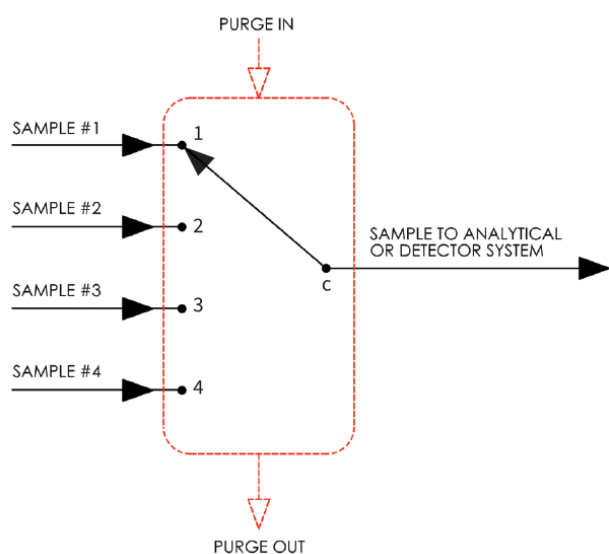
ACTUATOR CONFIGURATION

If you want a fail-safe assembly to prevent malfunction or unintentional operation of your system, you should choose only one normally open port and all the others normally closed. This way the normally open port will sweep the valve with an inert gas while the other gases are shut off.

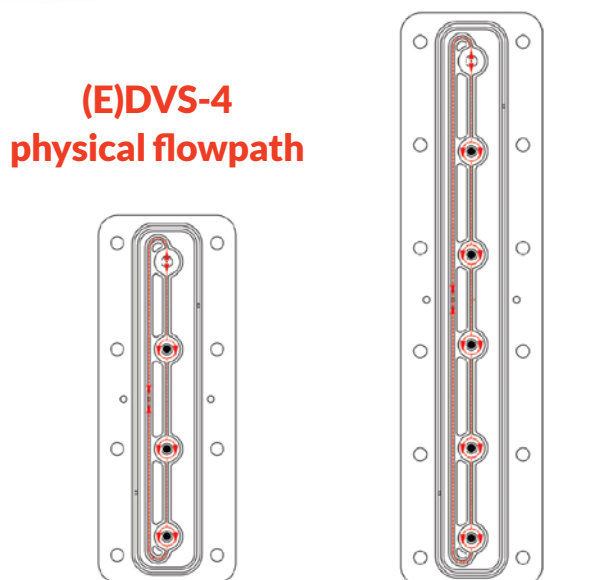
Fail-safe definition :

Pertaining to a system or component that automatically places itself in a safe operating mode in the event of a failure.

- Replaces standard rotary sample stream selection valve in an Analytical panel.
- Drop-in valve system for easy analytical system automation.
- Easy to install and control in oem gas analysers.
- Replaces a standard sample stream valve design with internal O-rings to provide a contamination free system.
- Used as a building block for an analyzer panel.
- Multiple columns or sample loops selection in Chromatographic system.

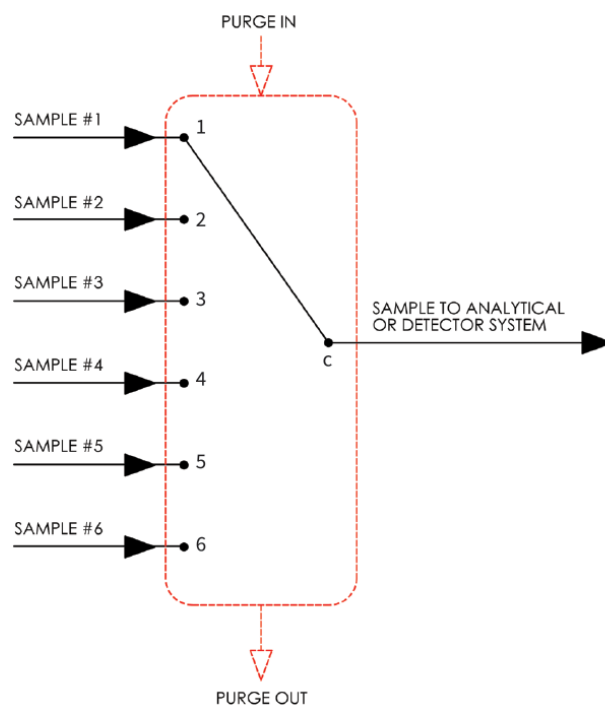


(E)DVS-4 flowpath schematic



**(E)DVS-4
physical flowpath**

**(E)DVS-6
physical flowpath**



(E)DVS-6 flowpath schematic

ORDERING INFORMATION

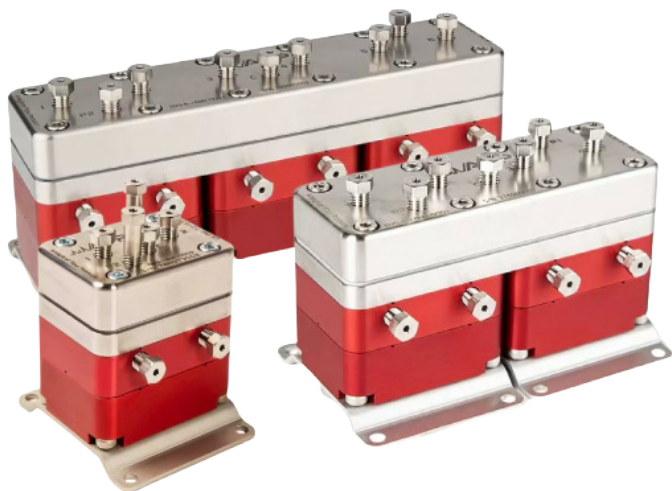


AFP's GC Sample Stream Selection Diaphragm Valves offer individual port control, continuous flow path, and no dead volume effects for efficient, reliable sample stream selection in your GC analyses. Purge features for the Sample Stream Selection Diaphragm Valves prevent any inboard contamination and ensure sample integrity. Other options include an electrical actuator, good for some portable GCs, while keeping the same reliability. Shop our selection of GC Sample Stream Selection Diaphragm Valves here.

Sample Stream Selection Valves

Product Description	Part No.
2-Port Sample Stream Selection GC Purged Diaphragm Valve with Electrical Actuation, SilcoNert 2000® Coating*	EDV3-08-0001
2-Port Sample Stream Selection GC Purged Diaphragm Valve with Pneumatic Actuation	DV3-16MT-0004
2-Port Sample Stream Selection GC Purged Diaphragm Valve with Pneumatic Actuation	DV3-16MT-0001
2-Port Sample Stream Selection GC Purged Diaphragm Valve with Electrical Actuation, SilcoNert 2000® Coating	EDV3-16-0005
2-Port Sample Stream Selection GC Purged Diaphragm Valve with Electrical Actuation	EDV3-16-0004
2-Port Sample Stream Selection GC Purged Diaphragm Valve with Pneumatic Actuation	DV3-16MT-0003
4-Port Sample Stream Selection GC Purged Diaphragm Valve with Pneumatic Actuation	DVS-4-16MT-0001
6-Port Sample Stream Selection GC Purged Diaphragm Valve with Pneumatic Actuation	DVS-6-16MT-0001

* 1/8 connections.



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