

GAS CHROMATOGRAPHY

HIGH FLOW DIAPHRAGM VALVES (HFDV)



**Exclusive Patented Internal
Purge Technology**

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AFP
Schivo Group

HIGH FLOW DIAPHRAGM VALVES

AFP's High Flow Diaphragm Valves (HFDV) bring a new level of flow performance to diaphragm valve technology.

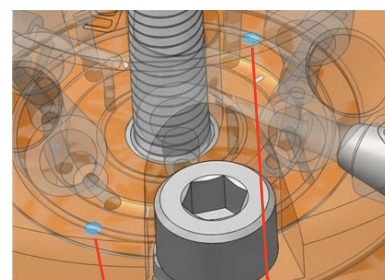
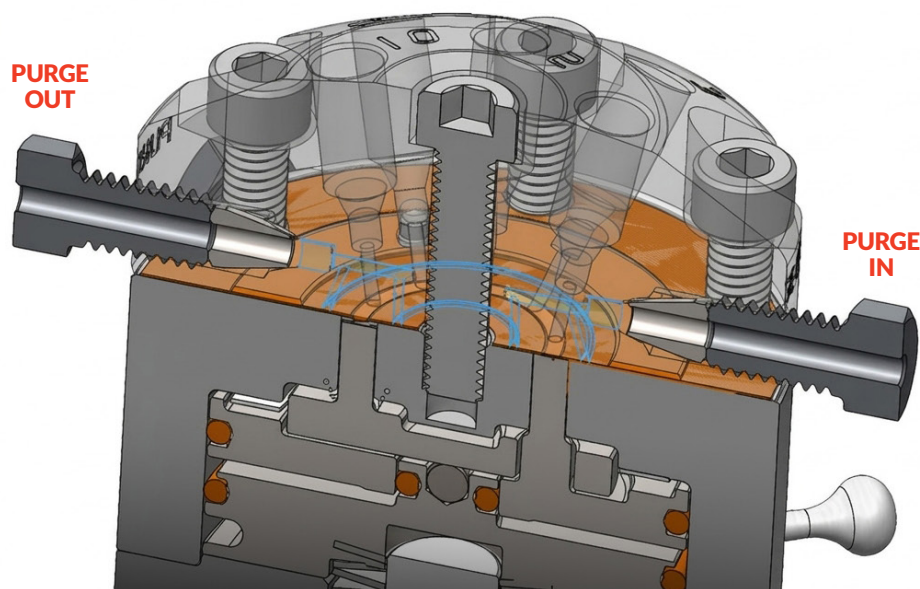
Engineered for more uniform flow restriction between loading and injection stages, the HFDV platform enables faster stabilization after switching—supporting demanding applications where compounds elute rapidly and precise flow control is critical. This enhanced performance approaches the fast-switching characteristics traditionally associated with rotary valves while delivering the advantages of diaphragm valve technology.

- Embedded actuator
- Long lifetime
- Compact footprint
- No wearing in components
- Designed for easy maintenance and service

AFP is expanding its diaphragm valve portfolio with a compact family engineered for space-constrained analytical instruments without compromising performance. Building on the proven advantages of AFP diaphragm valve technology, HFDV retains key features including internal purge, relief pins for easy maintenance, and lower restriction and homogeneous flow between loading and injection stages, compared to the traditional diaphragm valves in the market. With flow capabilities approaching those traditionally associated with rotary valves, HFDV combines high-flow capacity, a compact footprint, and proven diaphragm valve technology in a differentiated solution for next-generation instruments and competitive replacement applications.

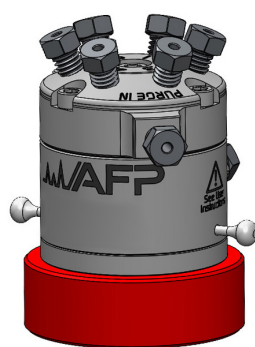
Name	Description
Valve Type	High Performance Grade, Medium Temperature
Number of Ports	6, 10 and 14
Bore Size	0.030" [0.76 mm]
Port Connection	1/16" [1.6 mm]
Max. Working Pressure	150 PSI [1034 kPa]
Max. Initial Leak Rate	10 ⁻⁸ Atm.cc/s He
Max. Initial Pressure Drop	2 kPa @ 75 sccm N ₂
Actuator Type	Pneumatic Single Actuation (Spring Return)
Actuation Pressure	50 PSI [345 kPa]
Gas Consumption Per Actuation	0.04 in ³ [0.65 ml]
Max. Working Temperature	356°F [180°C]
Material	SS Body SS 316l Valve Head AFPD-2 Diaphragm Type

Additional configurations are available upon request.
Contact AFP Sales for details.

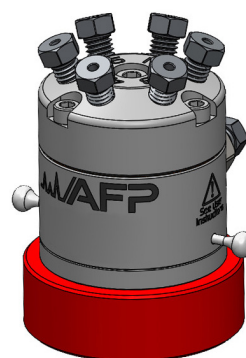


PURGE CONNECTS INSIDE ACTUATION

HIGH FLOW DIAPHRAGM VALVES 6 PORTS

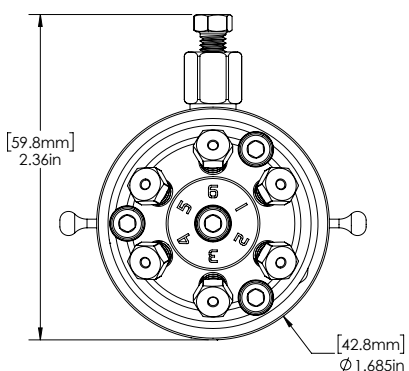


PURGED MODEL

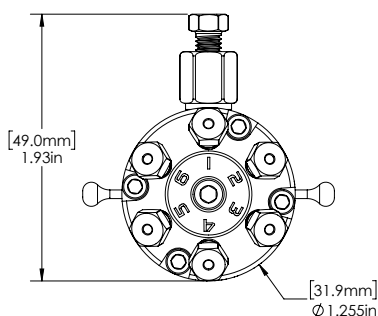


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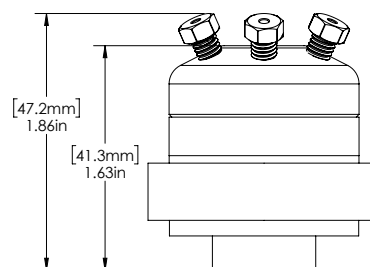
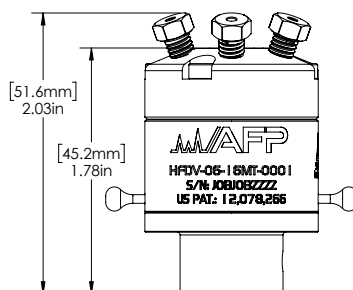
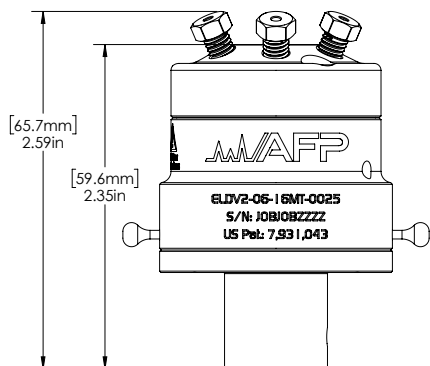
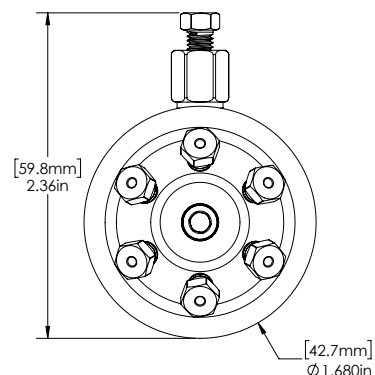
AFP ELDV/MDVG Series



AFP HFDV Series

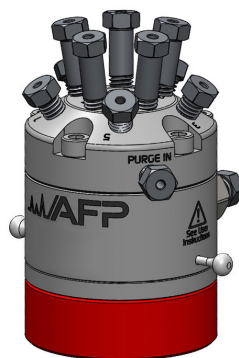


Competitor Valve

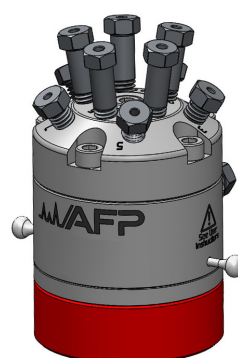


Description	Part No.
High Flow Diaphragm Valve, 6 ports, MT diaphragm, No purge	HFDV-06-16MT-0001
High Flow Diaphragm Valve, 6 ports, MT diaphragm, No purge, Silconert	HFDV-06-16MT-0002
High Flow Diaphragm Valve, 6 ports, MT diaphragm, No purge, Dursan	HFDV-06-16MT-0003
High Flow Diaphragm Valve, 6 ports, MT diaphragm, No purge, HC-22	HFDV-06-16MT-0004
High Flow Diaphragm Valve, 6 ports, MT diaphragm, Purge	HFDV-06-16MT-0005
High Flow Diaphragm Valve, 6 ports, MT diaphragm, Purge, Silconert	HFDV-06-16MT-0006
High Flow Diaphragm Valve, 6 ports, MT diaphragm, Purge, Dursan	HFDV-06-16MT-0007
High Flow Diaphragm Valve, 6 ports, MT diaphragm, Purge, HC-22	HFDV-06-16MT-0008

HIGH FLOW DIAPHRAGM VALVES 10 PORTS

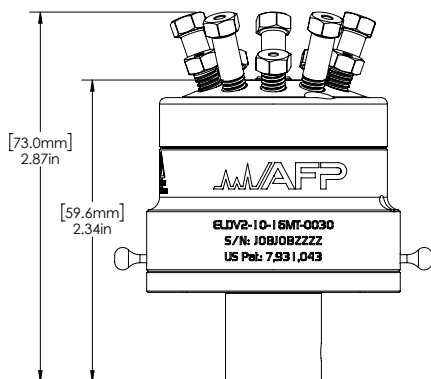
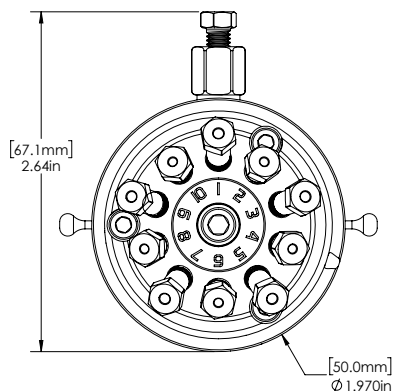


PURGED MODEL

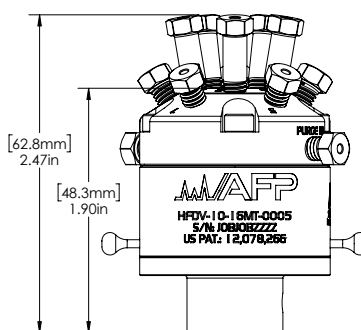
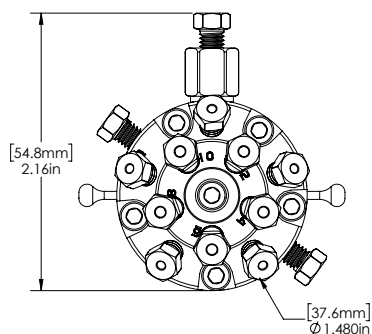


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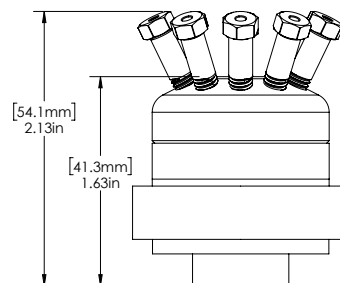
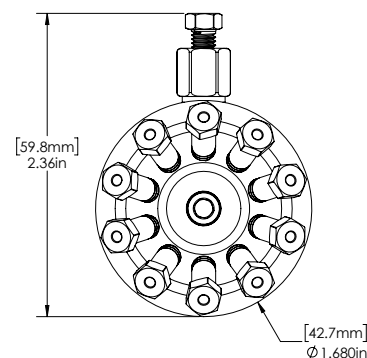
AFP ELDV/MDVG Series



AFP HFDV Series



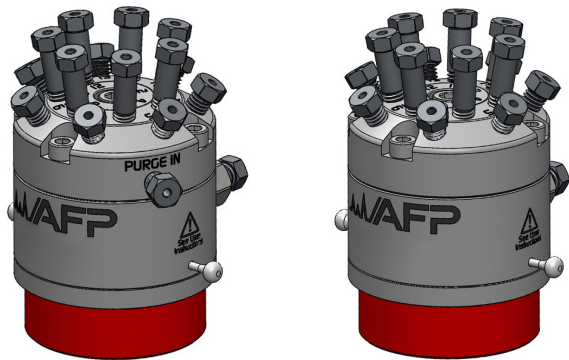
Competitor Valve



Description	Part No.
High Flow Diaphragm Valve, 10 ports, MT diaphragm, No purge	HFDV-10-16MT-0001
High Flow Diaphragm Valve, 10 ports, MT diaphragm, No purge, Silconert	HFDV-10-16MT-0002
High Flow Diaphragm Valve, 10 ports, MT diaphragm, No purge, Dursan	HFDV-10-16MT-0003
High Flow Diaphragm Valve, 10 ports, MT diaphragm, No purge, HC-22	HFDV-10-16MT-0004
High Flow Diaphragm Valve, 10 ports, MT diaphragm, Purge	HFDV-10-16MT-0005
High Flow Diaphragm Valve, 10 ports, MT diaphragm, Purge, Silconert	HFDV-10-16MT-0006
High Flow Diaphragm Valve, 10 ports, MT diaphragm, Purge, Dursan	HFDV-10-16MT-0007
High Flow Diaphragm Valve, 10 ports, MT diaphragm, Purge, HC-22	HFDV-10-16MT-0008

HIGH FLOW DIAPHRAGM VALVES

14 PORTS

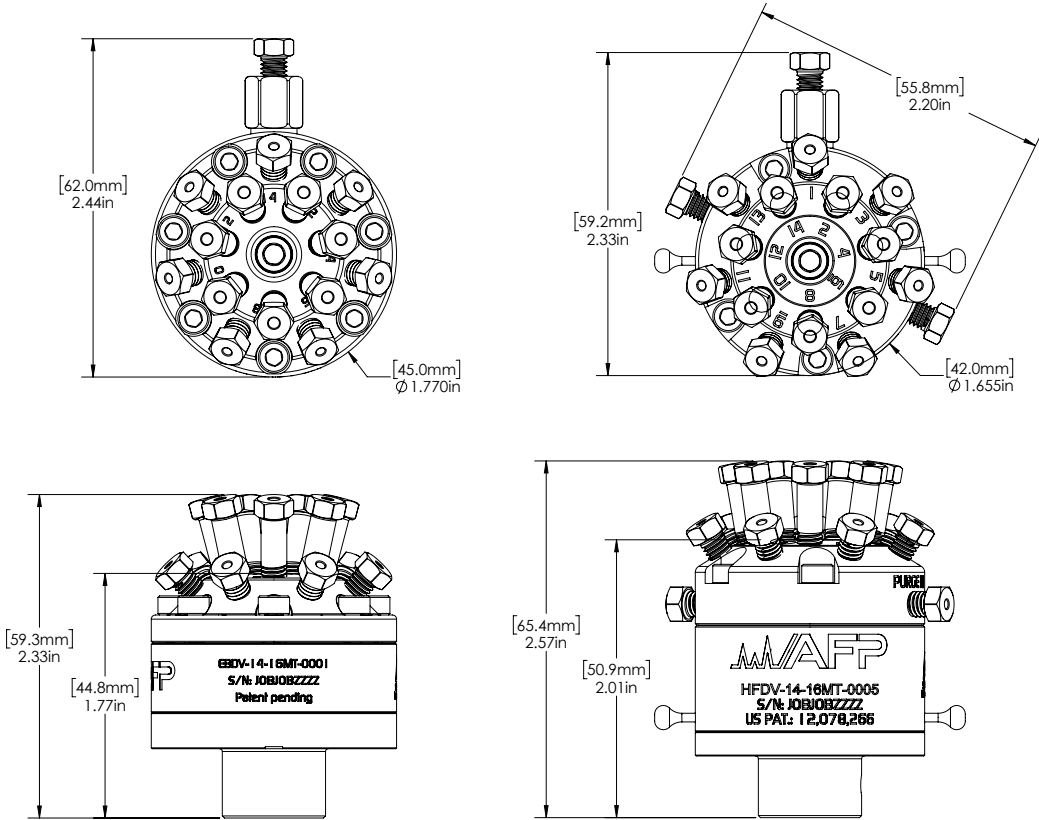


PURGED MODEL

NON PURGED MODEL

AFP ELDV/MDVG Series

AFP HFDV Series



Description	Part No.
High Flow Diaphragm Valve, 14 ports, MT diaphragm, No purge	HFDV-14-16MT-0001
High Flow Diaphragm Valve, 14 ports, MT diaphragm, No purge, Silconert	HFDV-14-16MT-0002
High Flow Diaphragm Valve, 14 ports, MT diaphragm, No purge, Dursan	HFDV-14-16MT-0003
High Flow Diaphragm Valve, 14 ports, MT diaphragm, No purge, HC-22	HFDV-14-16MT-0004
High Flow Diaphragm Valve, 14 ports, MT diaphragm, Purged	HFDV-14-16MT-0005
High Flow Diaphragm Valve, 14 ports, MT diaphragm, Purge, Silconert	HFDV-14-16MT-0006
High Flow Diaphragm Valve, 14 ports, MT diaphragm, Purge, Dursan	HFDV-14-16MT-0007
High Flow Diaphragm Valve, 14 ports, MT diaphragm, Purge, HC-22	HFDV-14-16MT-0008

HFDV VALVE ACCESSORIES AND REPLACEMENT PARTS

Flexible Mounting, Connection and Service Options for HFDV Valves

AFP offers a comprehensive range of **mounting collars, diaphragms, valve heads, ferrules, and fittings** to support installation, integration, maintenance, and service of High Flow Diaphragm Valves (HFDV).

HFDV mounting collars are sold separately, allowing OEMs and system integrators to select the mounting configuration best suited to their instrument design. HFDV valves can also be **retrofitted into standard AFP ELDV/MDVG mounting collars**, helping simplify integration into existing systems and providing additional flexibility for replacement applications.

HFDV MOUNTING COLLARS

Two mounting collars have been specifically designed for the HFDV series:

CR-HFDV-01 — Standard Clamp Ring

A standard HFDV mounting collar designed for straightforward installation and service. Side-screw access allows the valve to be removed while the clamp ring remains mounted in the instrument.



CR-HFDV-02 — Easy Access Removable Clamp Ring

Designed for valve ovens and other space-constrained installations. The valve can be removed together with the clamp ring as a complete assembly, simplifying service where surrounding tubing or adjacent valves may restrict access. This design is particularly beneficial for Process GC systems, valve ovens, and multi-valve installations.



ORDERING INFORMATION

The HFDV platform is designed for easy maintenance and service while maintaining the compact footprint and high-flow performance of the valve family.

Replacement Diaphragms

Description	Part No.
Diaphragm for HFDV, 6 ports, MT	HFDV-06-DMT
Diaphragm for HFDV, 10 ports, MT	HFDV-10-DMT
Diaphragm for HFDV, 14 ports, MT	HFDV-14-DMT

Replacement Valve Heads — 6 Ports

Description	Part No.
Valve Head for HFDV, 6 ports, SS316, no purge	VH-HFDV-06-NP-01
Valve Head for HFDV, 6 ports, Silconert, no purge	VH-HFDV-06-NP-02
Valve Head for HFDV, 6 ports, Dursan, no purge	VH-HFDV-06-NP-03
Valve Head for HFDV, 6 ports, Hastelloy, no purge	VH-HFDV-06-NP-04
Valve Head for HFDV, 6 ports, SS316, no purge, 0.010" bore size	VH-HFDV-06-NP-05
Valve Head for HFDV, 6 ports, SS316, purged	VH-HFDV-06-P-01
Valve Head for HFDV, 6 ports, Silconert, purged	VH-HFDV-06-P-02
Valve Head for HFDV, 6 ports, Dursan, purged	VH-HFDV-06-P-03
Valve Head for HFDV, 6 ports, Hastelloy, purged	VH-HFDV-06-P-04
Valve Head for HFDV, 6 ports, SS316, purged, 0.010" bore size	VH-HFDV-06-P-05

Replacement Valve Heads — 10 Ports

Valve Head for HFDV, 10 ports, SS316, no purge	VH-HFDV-10-NP-01
Valve Head for HFDV, 10 ports, Silconert, no purge	VH-HFDV-10-NP-02
Valve Head for HFDV, 10 ports, Dursan, no purge	VH-HFDV-10-NP-03
Valve Head for HFDV, 10 ports, Hastelloy, no purge	VH-HFDV-10-NP-04
Valve Head for HFDV, 10 ports, SS316, no purge, 0.010" bore size	VH-HFDV-10-NP-05
Valve Head for HFDV, 10 ports, SS316, purged	VH-HFDV-10-P-01
Valve Head for HFDV, 10 ports, Silconert, purged	VH-HFDV-10-P-02
Valve Head for HFDV, 10 ports, Dursan, purged	VH-HFDV-10-P-03
Valve Head for HFDV, 10 ports, Hastelloy, purged	VH-HFDV-10-P-04
Valve Head for HFDV, 10 ports, SS316, purged, 0.010" bore size	VH-HFDV-10-P-05

Replacement Valve Heads — 14 Ports

Valve Head for HFDV, 14 ports, SS316, no purge	VH-HFDV-14-NP-01
Valve Head for HFDV, 14 ports, Silconert, no purge	VH-HFDV-14-NP-02
Valve Head for HFDV, 14 ports, Dursan, no purge	VH-HFDV-14-NP-03
Valve Head for HFDV, 14 ports, Hastelloy, no purge	VH-HFDV-14-NP-04
Valve Head for HFDV, 14 ports, SS316, no purge, 0.010" bore size	VH-HFDV-14-NP-05
Valve Head for HFDV, 14 ports, SS316, purged	VH-HFDV-14-P-01
Valve Head for HFDV, 14 ports, Silconert, purged	VH-HFDV-14-P-02
Valve Head for HFDV, 14 ports, Dursan, purged	VH-HFDV-14-P-03
Valve Head for HFDV, 14 ports, Hastelloy, purged	VH-HFDV-14-P-04
Valve Head for HFDV, 14 ports, SS316, purged, 0.010" bore size	VH-HFDV-14-P-05

Mounting Collars (sold separately)



Description	Part No.
Standard Clamp Ring, HFDV, Red, with Screws	CR-HFDV-01
Custom Clamp Ring, HFDV, Red, with Screws	CR-HFDV-02

Ferrules



Description	Part No.
Internal Ferrule, 1/16", SS316L	FFH-0202-VB0
Internal Ferrule, 1/16", SS316L, Gold Plated	FFH-0202-VB1
Internal Ferrule, 1/16", Hastelloy	FFH-0202-VD0

Nuts



Description	Part No.
Internal Nut, 1/16" – Long	FNK-S202-VA8
Internal Nut, 1/16" – Short	FNN-S202-VA8

Need help selecting the right HFDV components for your application?
Contact AFP Life Sciences to discuss your system requirements.

Contact sales@afplifesciences.com
or call +1.418.266.1247



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