

CARTEN[®]

High Performance Valves & Flow Solutions

HF Series

Ultra-High Purity, High Flow Bellows Valves



For High Purity Gas and Chemical Distribution Systems

High Purity High Flow Bellows Valves

Product Applications



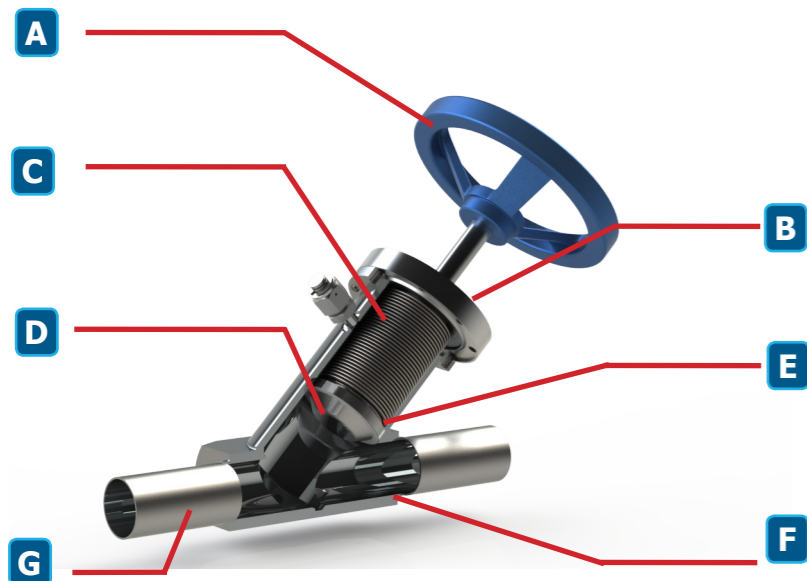
The HF series is designed for bulk distribution of high purity gases and solvent distribution systems where high flows are demanded with high containment and safe delivery in critical process systems. The HF's high Cv capacity provides the best flow value and operational costs and makes this range an excellent consideration for:

- High purity process gas distribution system
- Purifier systems
- Filter skid systems
- High purity solvent systems
- High purity chemical distribution systems
- Suitable for inert, speciality gases and most toxic gases
- Maximum Flow, Minimum pressure drop systems

Product Features

- Highest Cv, maximum flow capacity - full unrestricted flow
- Carten UHP bellows valve design for clean and safe media delivery and high life cycle
- Leak rate of $<1 \times 10^{-9}$ scc/s He
- Available with Purge Connections and Integral Purge Valves
- Field retrofit possible for Manual to Pneumatic
- Available for use with Imperial, ISO, Metric and JIS tubing

Material of Construction



Item	Part
A	Manual Handle (ABS or Aluminium)
B	Bonnet Stainless Steel
C	Bellows Inconel® 625 or 316Ti
D	Seat PCTFE
E	Seat Holder 316L
F	Body Barstock 316L
G	Tube Ends 316L

* Inconel is a registered trademark of Special Metals Corporation.

HF Series Technical Specifications

Maximum Operating Pressure	HF Series	Vacuum-375 psig (0-25.8 bar)
Maximum Operating Temperature	PCTFE Seat Vespe® Seat	-22°F (-30°C) to 180°F (82°C) 302°F (150°C)
Inch Model		Cv
Description	Line Size (Body) Size	
HF 500	.500 (.500)	5
HF 755	.750 (.500)	10
HF 750	.750 (.750)	11.5
HF 1075	1.000 (.750)	20
HF 751	.750 (1.000)	15
HF 1000	1.000 (1.000)	29
HF 1501	1.500 (1.000)	27
HF 1502	1.500 (2.000)	85
HF 2000	2.000 (2.000)	178
HF 3002	3.000 (2.000)	117
HF 3004	3.000 (4.000)	452
HF 4000	4.000 (4.000)	758
HF 6004	6.000 (4.000)	758*

Helium Leak Test	Inboard Across the Seat Outboard Pressure Test	$<1 \times 10^{-9}$ scc/s He (1×10^{-10} Pa-M ³ /s) $<1 \times 10^{-9}$ scc/s He (1×10^{-10} Pa-M ³ /s) $<1 \times 10^{-6}$ scc/s He (1×10^{-7} Pa-M ³ /s)
Cleanliness and Packaging	Assembled and tested in Class 10 Cleanroom. Purged and Final Packaged in Class 10 Cleanroom. Double-bag packaging with Ultra-High Purity N ² gas environment.	
Standard Finish	Electropolished to 10 Ra µin Max (0.25 µm) on all wetted surfaces	
Options	<p>Optional surface finishes available.</p> <p>Testing: particle, moisture, O₂, SEM, ESCA and AES on request.</p> <p>Purge connections and Purge valves are available as requested.</p> <p>Face seal, twin ferrule compression fittings available up to 1" lines.</p> <p>Higher temperature operation possible up to 150°C (302°F) upon request.</p>	

*Ref HF4000

* Vespe® is a registered trademark of DuPont Company.

Contact the Carten sales team for detailed product specification sheets on the HF Series -sales@cartencontrols.com

Order Information

HF - 750 - 065 - 065* - PV15 - 10 - BL

1	2	3	4	5	6	7
Series	Description (Line Size)	Inlet Connection	Outlet Connection	Purge Type	Surface Finish	Handwheel Colour**
HF	500 (1/2")	1/2" TE = 049	1/2" TE = 049	PC1 - 1/4" Downstream Purge	5Ra EP	Manual Handle - Blue Colour -BL
	755 (3/4")	3/4" TE = 049	3/4" TE = 049	PC2 - 1/4" Up and Downstream Purge	10Ra EP	Manual Handle - Black Colour - BR
	750 (3/4")	3/4" TE = 065	3/4" TE = 065	PC3 - 1/4" Upstream Purge	15Ra EP	Manual Handle - Gold Colour - GL
	1075 (1")	1" TE = 065	1" TE = 065	PV1- 1/4" Downstream Valve	20Ra	Manual Handle - Green Colour -GR
	751 (3/4")	1 1/2" TE = 065	1 1/2" TE = 065	PV2 - 1/4" Up and Downstream Valve	30Ra	Manual Handle - Grey Colour - GY
	1000 (1")	2" TE = 065	2" TE = 065	PV3 - 1/4" Upstream Valve		Manual Handle - Purple Colour - PR
	1501 (1 1/2")	2 1/2" TE = 065	2 1/2" TE = 065	PC15 - 1/2" Downstream Purge		Manual Handle - Red Colour - RD
	1502 (1 1/2")	3" TE = 065	3" TE = 065	PC25 1/2" - Up and Downstream Purge		Manual Handle - Silver Colour - SL
	2000 (2")	4" TE = 065	4" TE = 065	PC35 - 1/2" Upstream Purge		Manual Handle - White Colour - WT
	3002 (3")	6" TE = 109	6" TE = 109	PV15 - 1/2" Downstream Valve		Manual Handle - Yellow Colour - YL
	3004 (3")	3/4" FSM M	3/4" FSM M	PV25 - 1/2" Up and Downstream Valve		Vespel Seat -V
	4000 (4")	3/4" FSM FM	3/4" FSM FM	PV35 - 1/2" Upstream Valve		
	6004 (6")	3/4" FSM M(S)	3/4" FSM M(S)			

*Leave this section blank if the outlet connection is the same as the inlet connection

** Unless otherwise specified, a standard black handwheel is provided with the HF Series

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