BDV Series

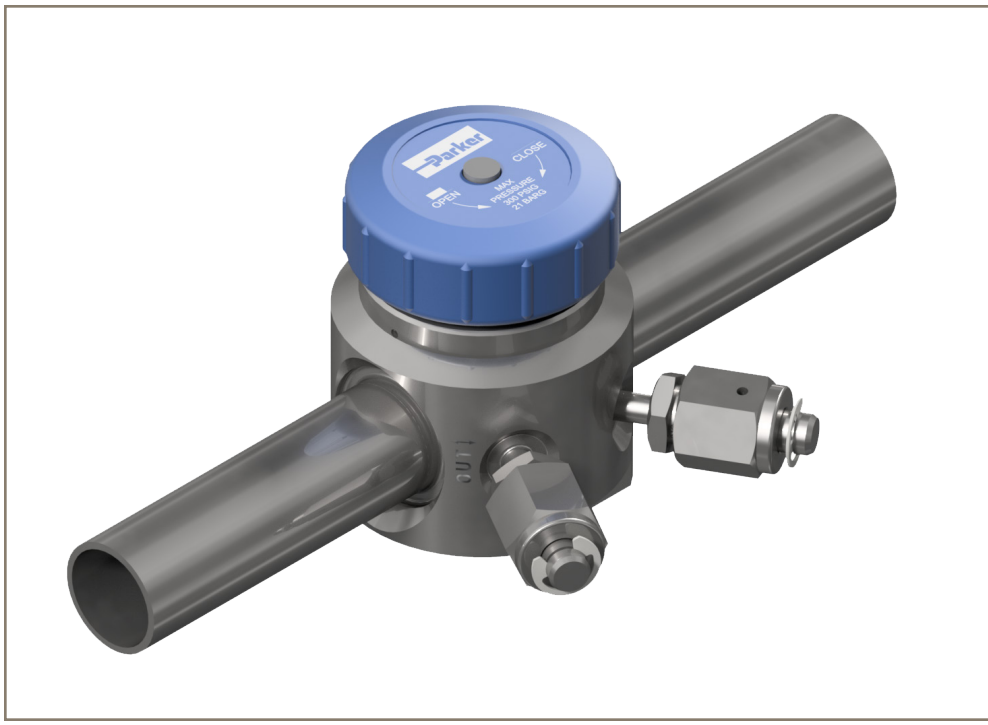
Ultra-high Purity Bulk Diaphragm Valve

High Flow • 316L Stainless Steel • Electropolished

aerospace
climate control
electromechanical
filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding

Value Proposition:

The BDV Series is a "positive retraction" diaphragm valve that enables precise control of gas and liquid distribution in semiconductor manufacturing processes. Excelling in high flow, low pressure conditions, it's ideal for bulk distribution systems, valve manifold boxes, and tool hook-up applications, where absolute purity and top-tier performance is the standard.



Contact Information:

Parker Hannifin Corporation
Veriflo Division
250 Canal Blvd
Richmond, California 94804

phone 510 235 9590
vfo.quotes@support.parker.com
vfo.support@support.parker.com

www.parker.com/veriflo

Product Features:

- Operating pressure from vacuum to 300 psig (0-21 barg)
- 2.8 Cv flow capacity
- Fully traceable 316L stainless steel construction
- 10 µinch Ra electropolished surface finish
- 1/4 to 1 inch port connections
- Integral capped purge ports
- Assembled, tested, and packaged in Class 100 cleanroom

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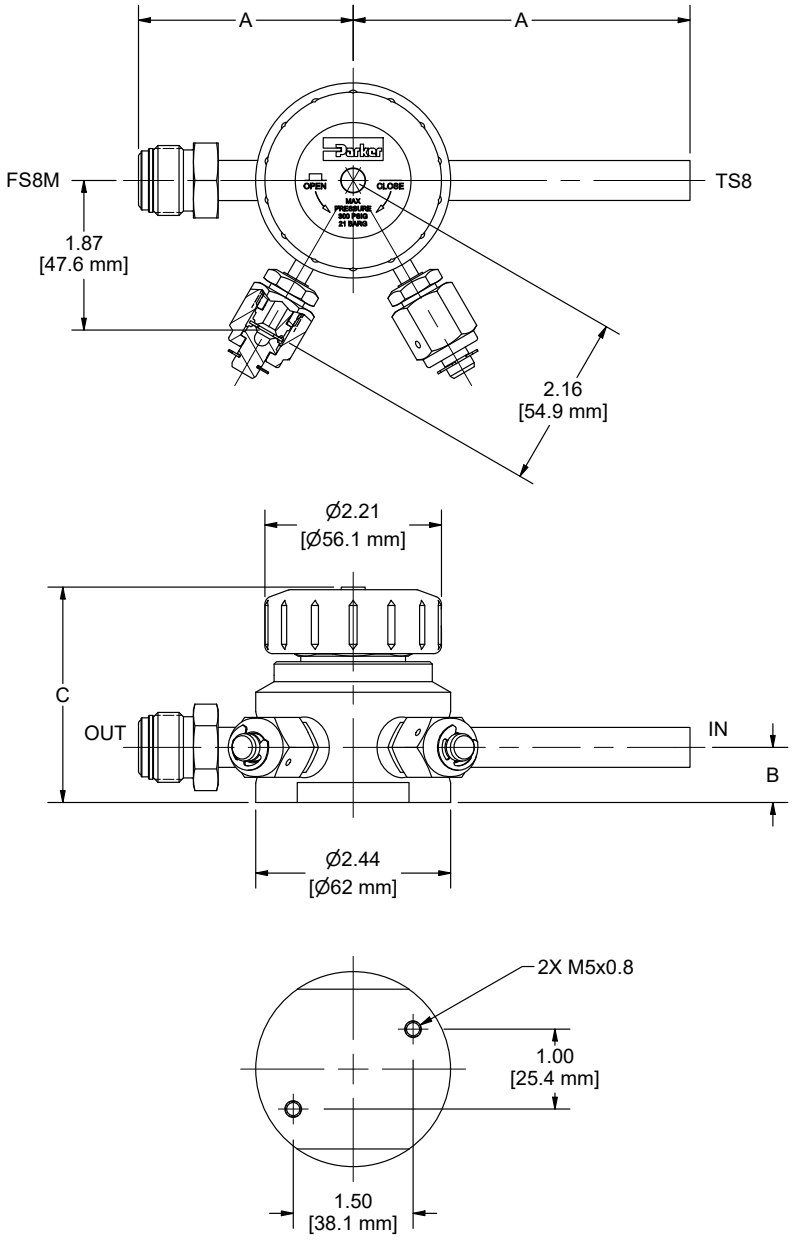
BDV Series

Dimensional Drawing



Connections	Dimension A	Dimension B	Dimension C
TS4	4.22 [107.2 mm]	.69 [17.5 mm]	2.72 [69 mm]
TS6			
TS8			
TS12			
TS16	4.22 [107.2 mm]	.85 [21.6 mm]	3.00 [76.3 mm]
FS4	2.16 [54.9 mm]	.69 [17.5 mm]	2.72 [69 mm]
FS8	2.69 [68.2 mm]	.69 [17.5 mm]	2.72 [69 mm]
FS12	3.11 [79 mm]	.69 [17.5 mm]	2.72 [69 mm]

NOTE: Dimensional drawings shown are for reference only. Contact Parker Veriflo for customer drawings.

Safety Guide and Installation and Operating Instructions available at
www.parker.com/veriflo

BDV Series

Ordering Information

Build a BDV Series valve by replacing the numbered symbols with an option from the corresponding tables below.

	1	2	3	4	5	6	7	8
Sample: **BDV**	**S**	**28**	**K**	**TS8**	**FS8M**	**1**	**P1**	**CP**

Finished Order: **BDVS28KTS8FS8M1P1CP**

1 Body Material

S = 316L Stainless Steel

2 Cv

28 = 2.8 Cv

3 Seat Material

K = PCTFE
V = Polyimide *Recommended for Nitrous Oxide (N20) Service.*

4 Inlet Port

TS4 = 1/4" Tube
TS6 = 3/8" Tube
TS8 = 1/2" Tube
TS12 = 3/4" Tube
TS16 = 1" Tube
FS4F = 1/4" Female VacuSeal™
FS4M = 1/4" Male VacuSeal™
FS8F = 1/2" Female VacuSeal™
FS8M = 1/2" Male VacuSeal™
FS12F = 3/4" Female VacuSeal™
FS12M = 3/4" Male VacuSeal™

5 Outlet Port

Leave blank if outlet is same as inlet port

TS4 = 1/4" Tube
TS6 = 3/8" Tube
TS8 = 1/2" Tube
TS12 = 3/4" Tube
TS16 = 1" Tube
FS4F = 1/4" Female VacuSeal™
FS4M = 1/4" Male VacuSeal™
FS8F = 1/2" Female VacuSeal™
FS8M = 1/2" Male VacuSeal™
FS12F = 3/4" Female VacuSeal™
FS12M = 3/4" Male VacuSeal™

6 Knob Color

0 = White
1 = Blue (Standard)
2 = Pink
3 = Yellow
4 = Green
5 = Red
6 = Purple
7 = Black
8 = Gold
9 = Silver

7 Purge Port Configuration

All purge ports will be capped 1/4" Male VacuSeal™ connections.

XY = No Purge Port
P1 = Outlet
P2 = Inlet & Outlet
P3 = Inlet

8 Options

Blank = None
HT = Aluminum Knob[1] & Polyimide Seat *High Temp Applications*
CP = Capped or Plugged VacuSeal™ Outlet Port
XC = Purge Ports Not Capped
9L = Legacy Veriflo 935 Series Overall Length
CL = Competitive Overall Length

1. Aluminum Knob only available in color Blue.

BDV Series

Specifications

Materials of Construction	
Wetted	
Body	316L Stainless Steel
Diaphragm	316L Stainless Steel
Seat Options	PCTFE (std) or Polyimide
Non-wetted	
Stem	416 Stainless Steel
Bushing	Aluminum Silicon Bronze
Knob	ABS (std) or Aluminum (High temperature)
Operating Conditions	
Operating Pressure	Vacuum to 300 psig (Vacuum to 21 barg)
Temperature	Aluminum Knob required for temperature above 150°F
PCTFE	-40°F to 150°F (-40°C to 66°C)
Polyimide	-40°F to 302°F (-40°C to 150°C)

Functional Performance	
Design	
Burst Pressure	900 psig (62 barg)
Proof Pressure	450 psig (31 barg)
Flow Capacity[1]	2.8 Cv
Leak Rate	
Internal (across seat)	≤ 1 X 10^{-9} scc/sec He
External (Inboard)	≤ 2 X 10^{-10} scc/sec He
External (Outboard)	≤ 1 X 10^{-9} scc/sec He
Surface Finish	
Standard	10 µinch (.25µm) Ra
Internal Volume[1, 2]	12.3 cc

1. Applicable for 1/2" connection size only.
2. Does not include inlet, outlet, or purge port connection volumes.

For additional information on materials of construction, functional performance and operating conditions, please refer to Veriflo RI.EN.RP032.

Specifications are subject to change without notice.

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