

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:

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Product Features:

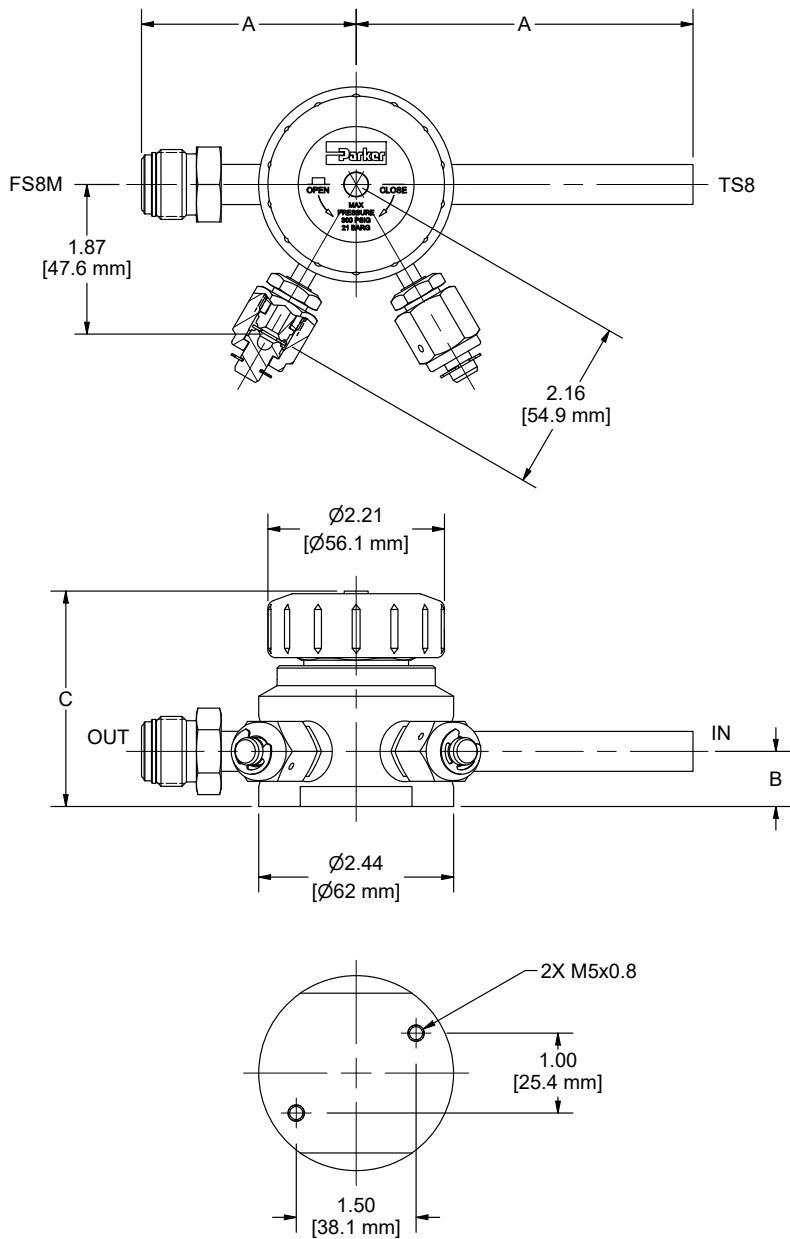
- Operating pressure from vacuum to 300 psig (0-21 barg)
- 2.8 Cv flow capacity
- Fully traceable 316L stainless steel construction
- 10 μ inch Ra electropolished surface finish
- 1/4 to 1 inch port connections
- Integral capped purge ports
- Assembled, tested, and packaged in Class 100 cleanroom



ENGINEERING YOUR SUCCESS.

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.

Sample: **BDV**

1
S

2
28

3
K

4
TS8

5
FS8M

6
1

7
P1

8
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 (N2O) 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 Knob¹ & 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.

VacuSeal™ is a registered trademark of Parker Hannifin Corporation.

BDV Series

Specifications

Materials of Construction		Functional Performance	
Wetted		Design	
Body	316L Stainless Steel	Burst Pressure	900 psig (62 barg)
Diaphragm	316L Stainless Steel	Proof Pressure	450 psig (31 barg)
Seat Options	PCTFE (std) or Polyimide	Flow Capacity ¹	2.8 Cv
Non-wetted		Leak Rate	
Stem	416 Stainless Steel	Internal (across seat)	$\leq 1 \times 10^{-9}$ scc/sec He
Bushing	Aluminum Silicon Bronze	External (Inboard)	$\leq 2 \times 10^{-10}$ scc/sec He
Knob	ABS (std) or Aluminum (High temperature)	External (Outboard)	$\leq 1 \times 10^{-9}$ scc/sec He
Operating Conditions		Surface Finish	
Operating Pressure	Vacuum to 300 psig (Vacuum to 21 barg)	Standard	10 μ inch (.25 μ m) Ra
Temperature	Aluminum Knob required for temperature above 150°F	Internal Volume ^{1, 2}	12.3 cc
PCTFE	-40°F to 150°F (-40°C to 66°C)		
Polyimide	-40°F to 302°F (-40°C to 150°C)		

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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