

BDV Series

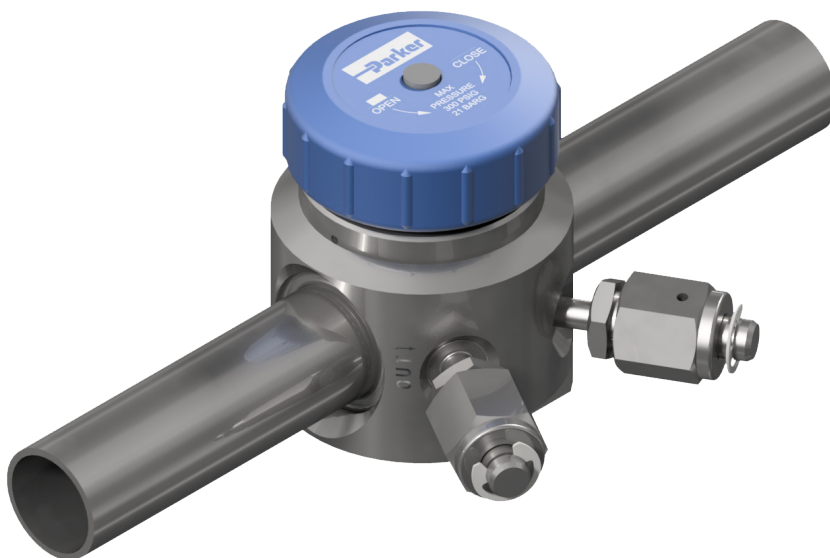
Ultra-high Purity Bulk Diaphragm Valve

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 µinch Ra electropolished surface finish
- 1/4 to 1 inch port connections
- Integral capped purge ports
- Assembled, tested, and packaged in Class 100 cleanroom

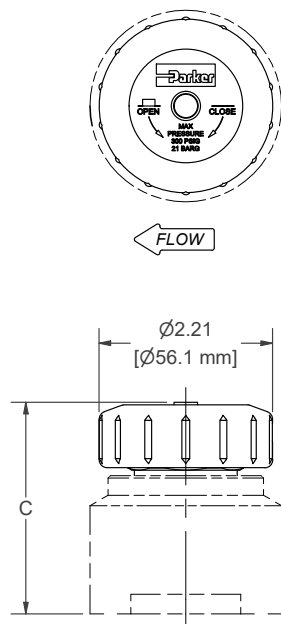


ENGINEERING YOUR SUCCESS.

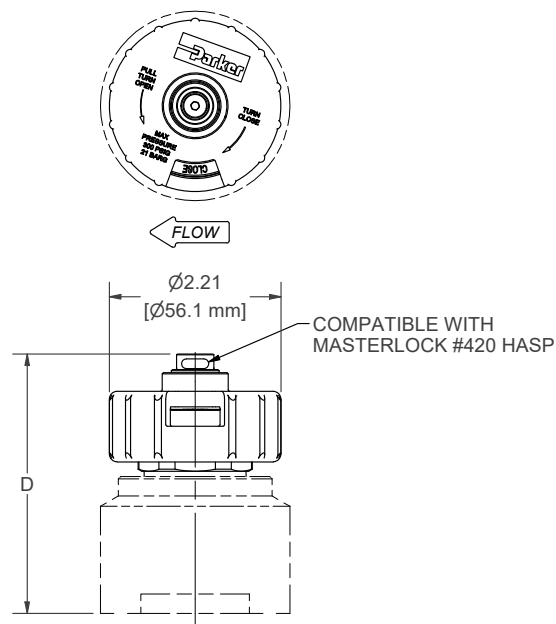
BDV Series

Dimensional Drawing

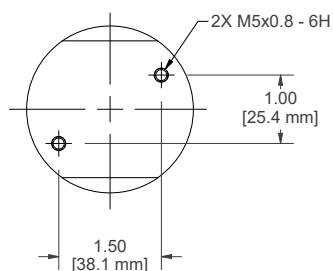
Spin Handle Actuator



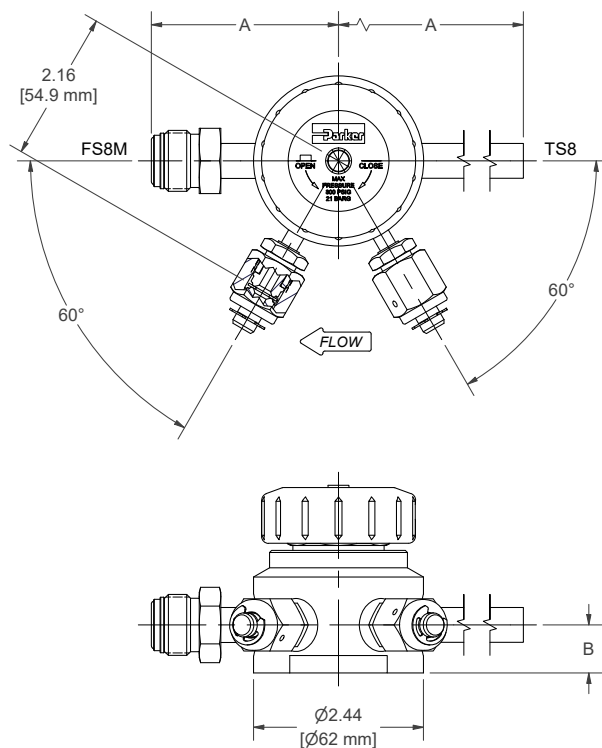
Pull-And-Turn LockOut-TagOut



Bottom Mounting Holes



Porting Diagram



Connections	Dimension A	Dimension B	Dimension C	Dimnsion D
TS4	4.22 [107.2 mm]	.69 [17.5 mm]	2.72 [69 mm]	3.36 [85.4 mm]
TS6				
TS8				
TS12	4.22 [107.2 mm]	.85 [21.6 mm]	3.00 [76.3 mm]	3.65 [92.6 mm]
TS16				
FS4				
FS8	2.69 [68.2 mm]	.69 [17.5 mm]	2.72 [69 mm]	3.36 [85.4 mm]
FS12	3.11 [79 mm]	.69 [17.5 mm]	2.72 [69 mm]	3.36 [85.4 mm]

NOTE: Dimensional drawings shown are for reference only. Contact Parker Veriflo for customer drawings.
All dimension in inches. Metric dimensions are for reference only.

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**  **S**  **28**  **K**  **TS8**  **FS8M**  **1**  **P1**  **PG**  **CP**

Finished Order: **BDVS28KTS8FS8M1P1PGCP**

Body Material

- S = 316L Stainless Steel
- D = 316L SS VeriClean™ or HP Grade

Cv

- 28 = 2.8 Cv

Seat Material

- K = PCTFE
- V = Polyimide *Recommended for Nitrous Oxide (N2O) Service.*

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™
- FS6F = 1/4" Hi-Flo Female VacuSeal™
- FS6M = 1/4" Hi-Flo Male VacuSeal™
- FS8F = 1/2" Female VacuSeal™
- FS8M = 1/2" Male VacuSeal™
- FS12F = 3/4" Female VacuSeal™
- FS12M = 3/4" Male VacuSeal™

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™
- FS6F = 1/4" Hi-Flo Female VacuSeal™
- FS6M = 1/4" Hi-Flo Male VacuSeal™
- FS8F = 1/2" Female VacuSeal™
- FS8M = 1/2" Male VacuSeal™
- FS12F = 3/4" Female VacuSeal™
- FS12M = 3/4" Male VacuSeal™

Knob Color

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

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

Actuation Type

- Blank = Spin Handle
- PG = Pull-And-Turn LockOut-TagOut¹ Indicator Knob, Green Closed / Red Open
- PR = Pull-And-Turn LockOut-TagOut¹ Indicator Knob, Red Closed / Green Open

Options

- Blank = None
- HT = Aluminum Knob^{2,3} *Required for applications above 150°F*
- CP = Capped or Plugged VacuSeal™ Outlet Port
- XC = Purge Ports Not Capped

1. LOTO to be used with Masterlock #420 HASP.
2. Aluminum Knob only available in color Blue.
3. Not available for PG or PR actuation types.

VeriClean™ is a registered trademark of Parker Hannifin Corporation.
VacuSeal™ is a registered trademark of Parker Hannifin Corporation.

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 Capacity¹	2.8 Cv
Leak Rate	
Internal (across seat)	$\leq 1 \times 10^{-9}$ scc/sec He
External (Inboard)	$\leq 2 \times 10^{-10}$ scc/sec He
External (Outboard) ²	$\leq 1 \times 10^{-9}$ scc/sec He
Surface Finish	
Standard	10 μ inch (.25 μ m) Ra
Internal Volume^{1, 3}	12.3 cc

1. Applicable for 1/2" connection size only.
2. Design Capability.
3. 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 RLEN.RP032.

Specifications are subject to change without notice.

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Proposition 65 Warning: This product contains chemicals known to the state of California to cause cancer or birth defects or other reproductive harm.