CB SERIES Ultra-High Purity Check Valves

PRODUCT APPLICATION

This CB stainless steel check valve series is intended for bulk gas distribution service where containment, cleanliness and purity are of utmost importance. Applications for this check valve are:

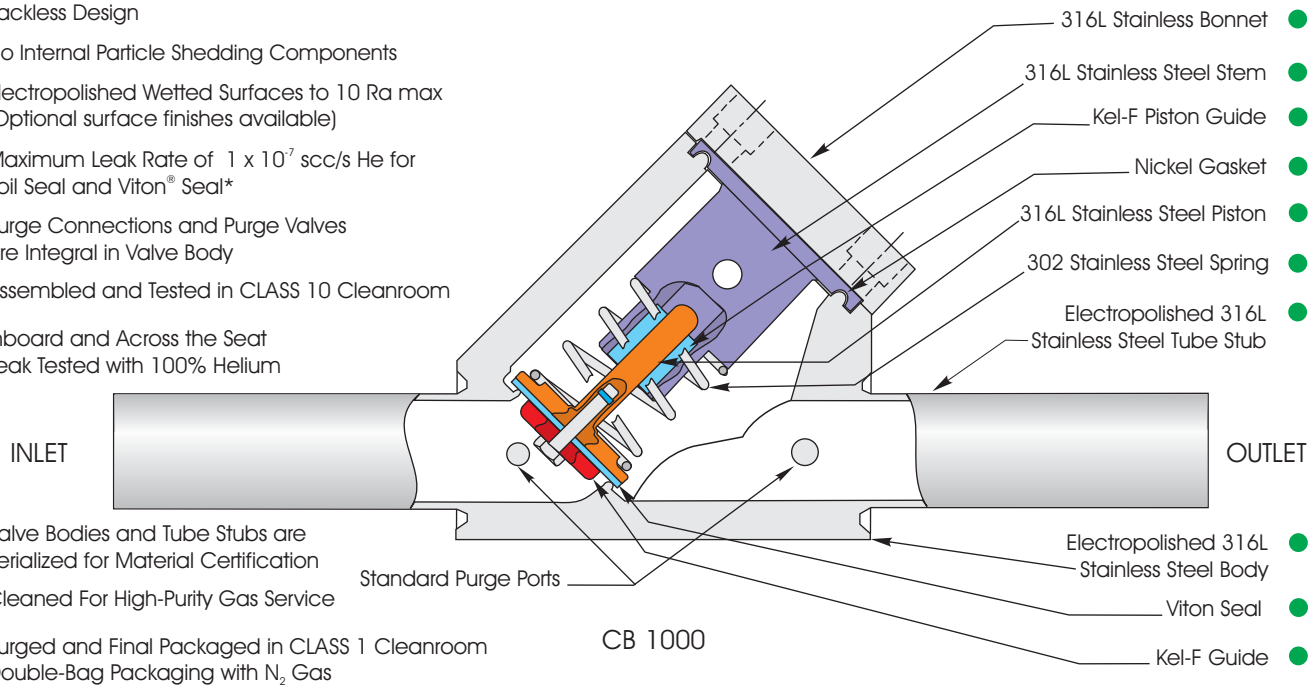
- High purity gas service for the semiconductor industry
- Prevents undesired reverse flow in high-purity gas systems
- Superior containment and cleanliness for your most critical valve applications
- Suitable for inert and most toxic gases
- Most suitable for isolation applications

PRODUCT FEATURES

- Designed for Ultra-High Purity
- High-Purity Stainless Gas Containment
- Packless Design
- No Internal Particle Shedding Components
- Electropolished Wetted Surfaces to 10 Ra max (Optional surface finishes available)
- Maximum Leak Rate of 1 x 10^{-7} scc/s He for Foil Seal and Viton® Seal*
- Purge Connections and Purge Valves are Integral in Valve Body
- Assembled and Tested in CLASS 10 Cleanroom
- Inboard and Across the Seat Leak Tested with 100% Helium
- Valve Bodies and Tube Stubs are Serialized for Material Certification
- Cleaned For High-Purity Gas Service
- Purged and Final Packaged in CLASS 1 Cleanroom Double-Bag Packaging with N_2 Gas Environment Supplied from a Liquid Source

**Excluding Permeation of Viton*

CONSTRUCTION MATERIALS



CB 1000

CVV and CB SERIES - Technical Data

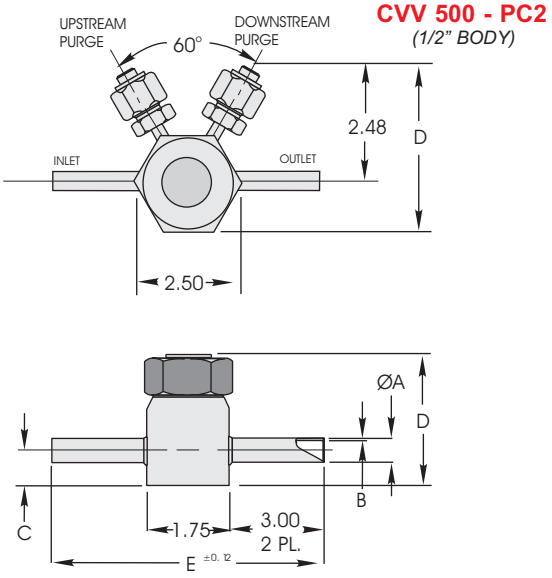
CONSTRUCTION MATERIAL	Wetted Areas	316L Stainless Steel, Nickel, Viton, CTFE		
	Non-Wetted Areas	316L, Nickel Plated Brass (CVV500)		
MAXIMUM OPERATING PRESSURE	CB Series	Vacuum to 250 psi (17 BAR)		
MAXIMUM OPERATING TEMPERATURE	CB Series	250° F (121°C)		
FLOW COEFFICIENT (C_v)*	MODEL	C_v	CP	PFO
	CVV 500	1.93	1.65 psig	4.3 psig
	CB 751	10.96	1.6 psig	12 psig
	CB 1000	15.21	1.6 psig	12 psig
CRACKING PRESSURE (CP)	CB 1501	16.73	1.6 psig	12 psig
	CB 1502	42.43	0.6 psig	6 psig
PRESSURE TO FULL OPEN (PFO)	CB 2000	51.26	0.6 psig	6 psig
	CB 3004	158.8	0.1 psig	2 psig
*Full open without spring	CB 4000	165.5	0.1 psig	2 psig

HELIUM LEAK TEST	Inboard/across the seat	1x10^{-7} scc/s He max.	Rated
		1x10^{-6} scc/s He max.	Std. Production
	Helium test performed with 100% helium		
CLEANLINESS	Assembled and tested in CLASS 10 cleanroom. Purged and Final packaged in CLASS 1 cleanroom. Double-bag packaging (2 mil nylon inner bag, 6 mil polyethelyne outer bag) with N_2 gas environment supplied from a liquid source.		
STANDARD FINISH	Electropolished to 10 Ra (0.25 Ra m) on all wetted surfaces		
OPTIONS	Surface finish - 5 Ra Particle/Moisture testing SEM and ESCA testing, Auger analysis Single purge valve connection Tube extension length or fittings Material: VAR; VIM / VAR		

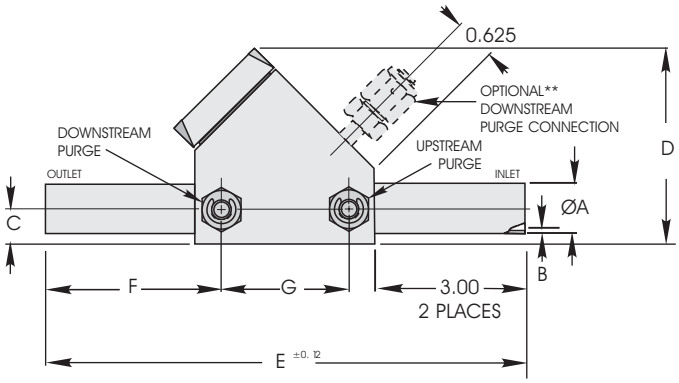
Specifications are subject to change without notice.

CB and CVV SERIES - Valve Dimensions

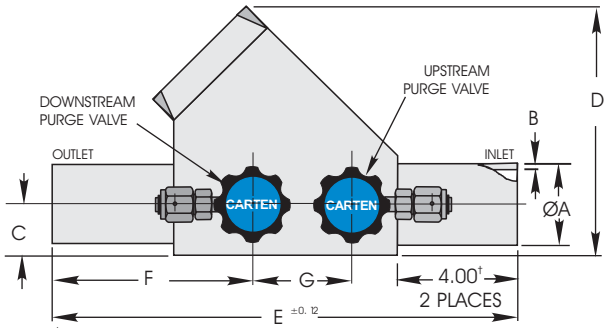
CVV 500 - PC2
(1/2" BODY)



CB 751 - PC2
CB 1000 - PC2
CB 1501 - PC2
(1" BODY)

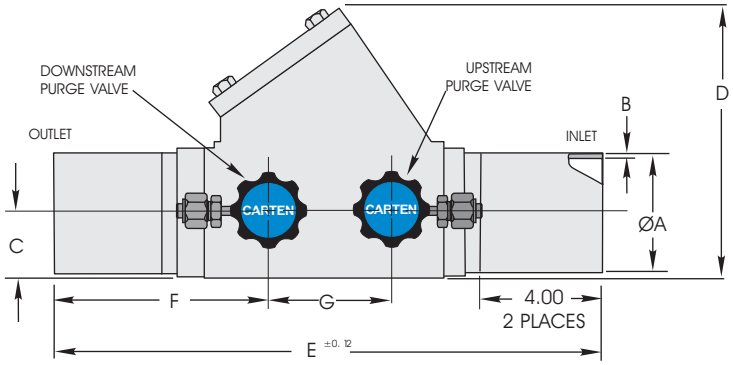


CB 1502 - PV2
CB 2000 - PV2
(2" BODY)



† CB 1502 HAS A 3.00 TUBE LG.

CB 3004 - PV2
CB 4000 - PV2
(4" BODY)



Standard purge connections and purge valve sizes are 1/4".

MODEL NO.	A*	B*	C	D	E	F	G	Body Width	Approx. Weight
CVV 500	0.500	0.049	0.715 (18.1mm)	2.75 (69.8mm)	7.83 (198.9mm)	N/A	N/A	2.00 (50.8mm)	2.25 Lb (1.02 Kg)
CB 751	0.750	0.065	0.75 (19.05mm)	3.94 (100.1mm)	11.55 (293.4mm)	4.53 (115.1mm)	2.50 (63.5mm)	2.25 (57.2mm)	5.9 Lb (2.7 Kg)
CB 1000	1.000	0.065	0.75 (19.05mm)	3.94 (100.1mm)	9.53 (242.1mm)	3.52 (89.4mm)	2.50 (63.5mm)	2.25 (57.2mm)	5.9 Lb (2.7 Kg)
CB 1501	1.500	0.065	0.75 (19.05mm)	3.94 (100.1mm)	13.45 (341.6mm)	5.48 (139.2mm)	2.50 (63.5mm)	2.25 (57.2mm)	5.9 Lb (2.7 Kg)
CB 1502	1.500	0.065	1.25 (31.75mm)	6.28 (159.5mm)	15.42 (391.7mm)	5.02 (127.5mm)	2.50 (63.5mm)	3.38 (85.8mm)	19.0 Lb (8.6 Kg)
CB 2000	2.000	0.065	1.25 (31.75mm)	6.28 (159.5mm)	13.50 (342.9mm)	6.02 (152.9mm)	2.50 (63.5mm)	3.38 (85.8mm)	19.0 Lb (8.6 Kg)
CB 3004	3.000	0.065	2.12 (53.8mm)	8.97 (227.8mm)	25.62 (650.7mm)	10.43 (264.9mm)	4.25 (107.9mm)	5.12 (130.0mm)	46.5Lb (21.1 Kg)
CB 4000	4.000	0.083	2.12 (53.8mm)	8.97 (227.8mm)	17.90 (454.7mm)	6.57 (166.9mm)	4.25 (107.9mm)	5.12 (130.0mm)	46.5 Lb (21.1Kg)

REV. 99-1

* Metric tube sizes and wall thicknesses are available upon request.
Note 1: All tolerances are ±0.06 in. unless otherwise stated.
Note 2: *Dimensional drawings shown are for reference only. Please contact the manufacturer for customer drawings showing updated dimensions.*
Note 3: Optional downstream purge connection and location available on all CB models.