

**CV**  
**SERIES**

**Description**

High flow, zero leak, low pressure drop check valve suitable for most fluid and gas applications. Fully guided poppet with free floating O-ring design is extremely tolerant of particulate contamination. A metal to metal positive stop in both the open and checked position protects O-ring and spring from over-stress fatigue. Zero external leakage is achieved by the utilization of a static O-ring seal with PTFE backup ring.

NOTE: For Cryogenic Liquid service, see Generant's CV-XX3 Product Offering.

**Technical Data**

- Nominal Crack Pressures: .15, 1, 3 & 8 Psig (0.01, 0.07, 0.21 & 0.55 bar)
- Leakage: Zero to maximum operating pressure. PTFE seals may require back pressure to seal leak-tight
- Temperature Rating:  
-320°F to 400°F (-195°C to 204°C)  
based on seal material
- Maximum Operating Pressures to 300°F (149°C)

Pipe Size	Brass Psig (bar)	Carbon Steel Psig (bar)	303 Stainless Steel Psig (bar)	316 Stainless Steel Psig (bar)
1/8" – 1"	3000 (206)	3000 (206)	4500 (310)	
1-1/4" & 1-1/2"		Non standard, consult factory		
2"	1500 (103)			

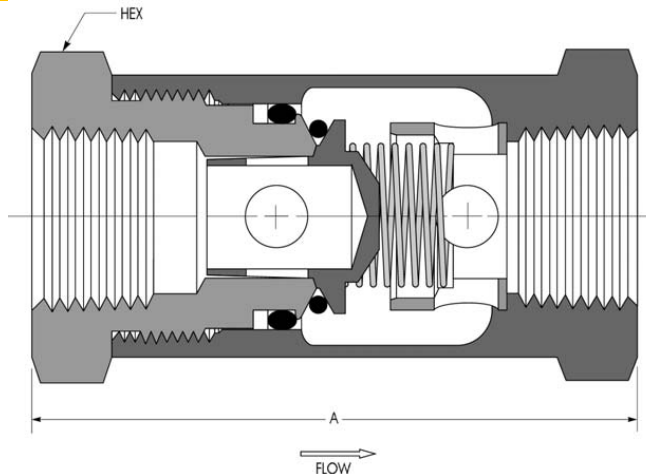


**Materials of Construction**

Component	Valve Body Material			
	Brass	Carbon	303 SS	316 SS
Inlet Cap, Outlet Body, Poppet, Spring Retainer	Brass ASTM B16	Carbon Steel ASTM A108 Zinc & Black Plated per ASTM B633	303 SS ASTM A582	316 SS ASTM A479
Dynamic O-Ring <sup>1</sup>	Buna-N		Viton™	
Static O-Ring				
Backup Ring	Virgin PTFE			
Spring	302 SS, ASTM A313			

<sup>1</sup> Lubricated with Krytox™

# SERIES CV CHECK VALVE



## Dimensional/Flow Data

Pipe Size (NPT)	A (inches)	Hex	Cv	Flow at 5.0 Psid (SCFM)
1/8"	1.70	13/16"	1.7	35
1/4"	2.25	1"	3.0	60
3/8"	2.43	1 - 1/8"	3.9	80
1/2"	2.93	1 - 1/2"	7.4	150
3/4"	3.37	1 - 3/4"	11.4	280
1"	3.99	2"	14.2	380
1 - 1/4"	4.50	2 - 3/4"	26.8	700
1 - 1/2"	5.35			
2"	6.10	3 - 1/2" Round <sup>1</sup>	51.0	1200

1. Machined from 3-1/2" round stock with 2-3/4" wrench flats.

Flow tested in accordance with ISA S75.02 with air. Restrictions in the inlet or outlet piping may reduce flow

## Ordering Information

**CV - 500 B - V - 3**

**SERIES**  
CV - Check Valve

**PIPE SIZE (NPT)**  
125 - 1/8"  
250 - 1/4"  
375 - 3/8"  
500 - 1/2"  
750 - 3/4"  
1000 - 1"  
1250 - 1-1/4" (brass only)  
1500 - 1-1/2" (brass only)  
2000 - 2" (brass only)  
NPT threads per ANSI/ASME B1.20.1

**MATERIAL CODE**  
B - Brass (1/8" - 2")  
S - 303 SS (1/4" - 1")  
SS - 316 SS (1/8" - 1")  
C - Carbon Steel (1/4" - 1")

**CRACK PRESSURE**  
.15 - (.1-4 Psig) (0.01 bar)  
1 - (.5 - 1 Psig) (0.07 bar)  
3 - (2-4 Psig) (0.21 bar)  
8 - (6-10 Psig) (0.55 bar)

**SEAL MATERIAL**  
V - Viton™, -10°F to 375°F (-23°C to 190°C)  
B - Buna-N, -40°F to 250°F (-40°C to 121°C)  
N - Neoprene, -40°F to 300°F (-40°C to 148°C)  
EP - Ethylene Propylene, -65°F to 300°F (-54°C to 148°C)  
FS - Fluorosilicone, -80°F to 350°F (-62°C to 176°C)  
S - Silicone, -70°F to 400°F (-56°C to 204°C)  
T - PTFE, -320°F to 350°F (-195°C to 176°C)

PTFE Seal may require back pressure to seal leak tight  
For cryogenic liquid service, see CV-XX3.

**OPTIONS**  
Oxygen cleaning, alternative seals and other thread configurations, consult factory

Note: Viton™ and Krytox™ are trademarks of DuPont.

PROPER COMPONENT SELECTION - When specifying a component, the total system design must be considered to ensure safe and trouble-free performance. Intended component function, materials compatibility, pressure ratings, installation, environment and maintenance are the responsibility of the system designer.



1865 Route 23 South PO Box 768 Butler, New Jersey 07405 973.838.6500 Fax 973.838.4888