

CV

SERIES

Description

High flow, bubble-tight, low pressure drop check valve suitable for many 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 the O-ring and spring from over-stress fatigue. External body seal is achieved by the utilization of a static elastomer 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: Bubble-tight to max. operating pressure. PTFE seals may require back pressure. Temperature Rating: -80°F to 400°F (-62°C to 204°C) based on seal material

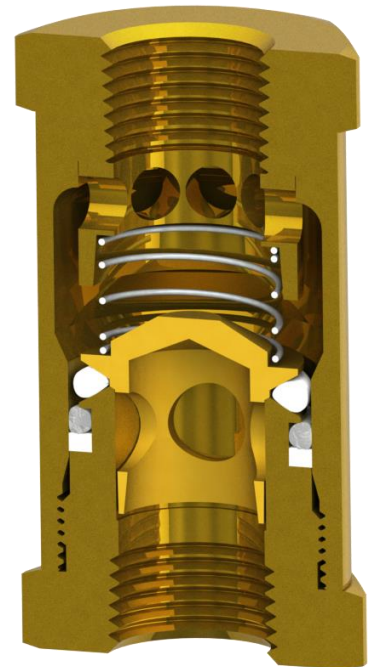
Maximum Operating Pressures to 300°F (149°C):

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)			

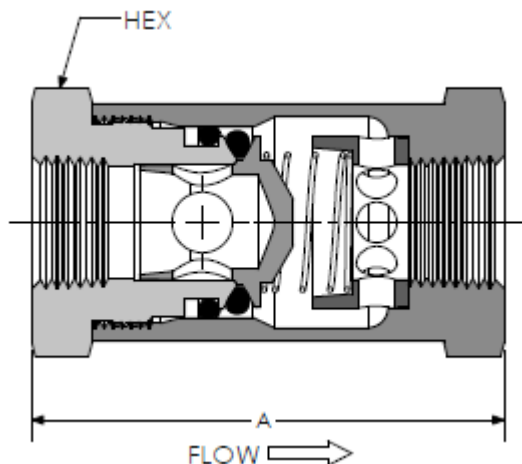
Materials of Construction

Component	Valve Body Material			
	Brass	Carbon	303 SS	316 SS
Inlet Cap, Outlet Body, Poppet, Spring Retainer	Brass ASTM B16	Carbon Steel ASTM A108 ³	303 SS ASTM A582	316 SS ASTM A479
Dynamic O-Ring ¹	See Ordering Information for Available Seal Options			
Static O-Ring ²				
Backup Ring	PTFE, ASTM D1710			
Spring	302 SS, ASTM A313			

- 1 Lubricated with Krytox™
- 2 Valves supplied with Teflon Seal Option are supplied with Neoprene Static O-Ring.
- 3 Zinc & Black Plated per ASTM B633



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 ¹	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, -40°F to 300°F (-40°C to 148°C)*

* Temperature Rating due to Neoprene static o-ring
 For true cryogenic service, see CV-XX3 Product Offering
 PTFE Dynamic Seal may require back pressure to seal bubble tight

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.



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