

# CV1-10

Check valve

## Description

The CV1-10-P is a poppet type, screw-in cartridge check valve.

## Operation

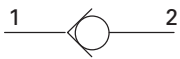
This valve remains closed until the bias is reached at port 1 at which time the

poppet lifts off the seat and allows flow from port 1 to port 2.

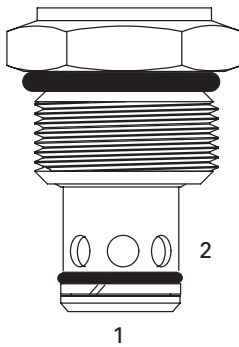
## Important

Upgraded to 350 bar (5000 psi)

## Functional Symbol



## Profile View



## RATINGS AND SPECIFICATIONS

Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)

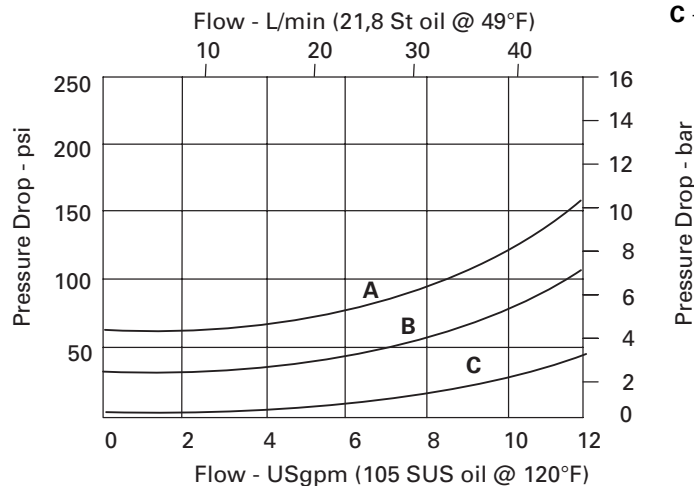
Typical application pressure (all ports)	350 bar (5000 psi)
Cartridge fatigue pressure (infinite life)	350 bar (5000 psi)
Rated flow	45 L/min (12 USgpm)
Free flow cracking pressure @ 1 L/min (0.25 USgpm)	<b>005</b> – 0,34 bar (5 psi) <b>015</b> – 1,03 bar (15 psi) <b>030</b> – 2,07 bar (30 psi) <b>065</b> – 4,48 bar (65 psi) <b>080</b> – 5,12 bar (80 psi) <b>100</b> – 6,90 bar (100 psi) <b>140</b> – 9,66 bar (140 psi) <b>260</b> – 17,93 bar (260 psi) <b>300</b> – 20,7 bar (300 psi)
Internal leakage, Port 2 to 1	5 drops / min. maximum @ 350 bar (5000 psi)
Temperature range	-40° to 120°C (-40° to 248°F)
Cavity	C-10-2
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20, etc.
Filtration	Cleanliness code 18/16/13
Standard housing materials	Aluminum or Steel
Weight cartridge only	0,08 kg (0.17 lb)
Seal kit	565803 Buna-N 566086 Viton®

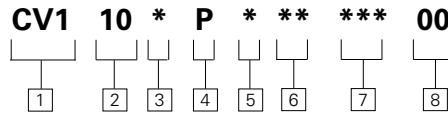
Viton is a registered trademark of E.I.DuPont

## Pressure Drop Curves

Cartridge only

- A** - CV1 10\*P 000 065 00
- B** - CV1 10\*P 000 030 00
- C** - CV1 10\*P 000 065 00





- 1 Function**  
CV1 – Check valve

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- 2 Size**  
10 – 10 Size

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- 3 Seals**  
N– Buna-N  
V – Viton

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- 4 Style**  
P – Poppet

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- 5 Valve housing material**  
0 – Cartridge only  
A – Aluminum  
S – Steel

**6 Port size**  
00 – Cartridge only

CODE	PORT SIZE	HOUSING NUMBER		
		Aluminum Light Duty	Aluminum Fatigue rated	Steel Fatigue rated
3B	3/8" BSPP	02-175462	–	–
6T	SAE 6	566151	–	02-175100
8T	SAE 8	–	–	02-175101
2G	1/4" BSPP	–	876702	02-175102
3G	3/8" BSPP	–	876703	02-175103
6H	SAE 6	–	876700	–
8H	SAE 6	–	876701	–

See Section J for housing details.

**7 Free flow cracking pressure**

- |  |                                  |
|--|----------------------------------|
| <b>005</b> – 0,34 bar (5 psi)<br>(Anti-cavitation) | <b>080</b> – 5,12 bar (80 psi)   |
| <b>015</b> – 1,03 bar (15 psi)                     | <b>100</b> – 6,90 bar (100 psi)  |
| <b>030</b> – 2,07 bar (30 psi)                     | <b>140</b> – 9,66 bar (140 psi)  |
| <b>065</b> – 4,48 bar (65 psi)                     | <b>260</b> – 17,93 bar (260 psi) |
|  | <b>300</b> – 20,70 bar (300 psi) |

**8 Special Features**

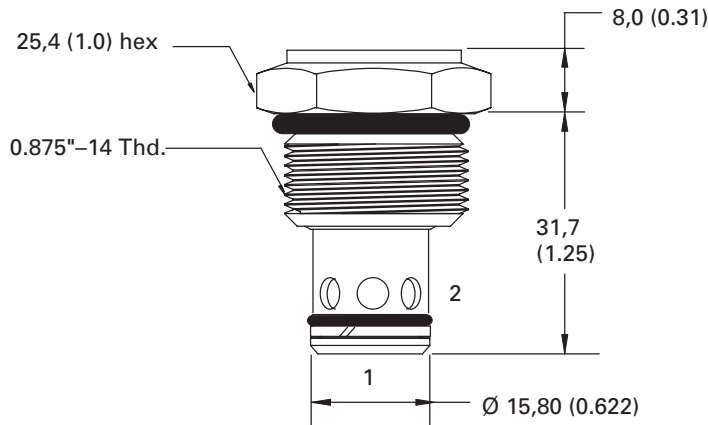
**00** – None  
(Only required if valve has special features - omitted if "00")

**Dimensions**

mm (inch)

Torque cartridge in housing

- A** - 47-54 Nm  
(35-40 ft. lbs)
- S** - 68-70 Nm  
(50-55 ft. lbs)



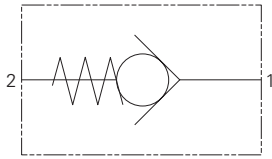
Aluminum housings can be used for pressures up to 210 bar (3000 psi)  
Steel housings must be used for operating pressures above 210 bar (3000 psi)



# CV3-10/CV13-10 - Check Valve

Direct acting, poppet type

Up to 76 L/min (20 USgpm) • 350 bar (5000 psi)



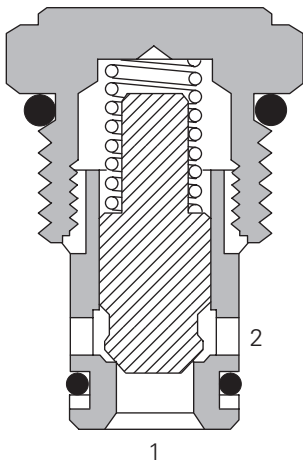
## Operation

The valve remains closed until the spring bias is reached at port 1 at which time the poppet lifts of the seat and allows flow from port 1 to port 2. in the other direction the valve is closed.

## Features

Hardened and ground working parts to limit leakage and extend service life.

## Sectional View



## Performance Data

### Ratings and Specifications

Performance data is typical with fluid at 21,8 cST (105 SUS) and 49°C (120°F)

Typical application pressure (all ports) CV3/CV13 210 bar (3000 psi)/350 bar (5000 psi)

Cartridge fatigue pressure (infinite life) CV3/CV13 210 bar (3000 psi)/350 bar (5000 psi)

Rated flow 76 L/min (20 USgpm)

Free flow cracking pressures @ 1.0 L/min (0.25 USgpm)	003 - 0.21 bar (3 psi)
010 - 0.69 bar (10 psi)	
020 - 1.38 bar (20 psi)	
035 - 2.41 bar (35 psi)	
040 - 2.76 bar (40 psi)	
065 - 4.48 bar (65 psi)	
100 - 6.90 bar (100 psi)	
180 - 12.40 bar (180 psi)	
210 - 14.50 bar (210 psi)	

Internal leakage, Port 2 to 1 5 drops/min. maximum @ 350 bar (5000 psi)

Temperature range -40° to 120°C (-40° to 248° F)

Cavity C-10-2

Fluids All general purpose hydraulic fluids such as MIL - H-5606, SAE 10, SAE 20, etc.

Filtration Cleanliness code 18/16/13

Standard housing material Aluminum or steel

Weight: cartridge only 0.08 kg (0.17 lbs.)

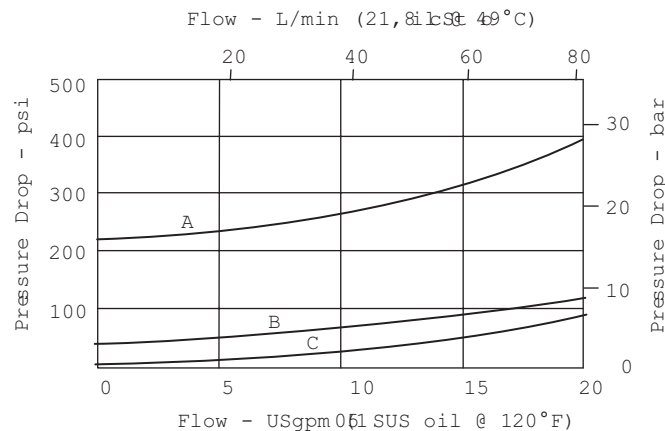
Seal kit 565803 (Buna-N)  
566086 (Viton)

Viton is a registered trademark of E.I. DuPont

## Description

This is a compact poppet type check valve ideal for use in manifolds for load sense or low flow applications.

## Pressure Drop



A - CV(\*)3 10\*P 000 210 00

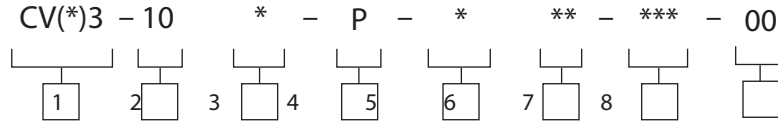
C - CV(\*)3 10\*P 000 003 00

B - CV(\*)3 10\*P 000 040 00

# CV3-10/CV13-10 - Check Valve

Direct acting, poppet type  
Up to 76 L/min (20 USgpm) • 350 bar (5000 psi)

## Model Code



- 1** Function  
CV3 - Check valve 210 bar (3000 psi)  
CV13 - Check valve 350 bar (5000 psi)

- 2** Size  
10 - 10 size

- 3** Seal Material  
N - Buna-N  
V - Viton

- 4** Style  
P - Poppet

- 5** Valve Housing Material  
0 - None  
A - Aluminum  
S - Steel

**6** Port Size

Code	Port Size	Housing Number		
		Aluminum Light Duty	Aluminum Fatigue Rated	Steel Fatigue Rated
<b>00</b> Cartridge only				
3B3/8" BSPP	02-175462	-	-	
6T SAE 6	566151	-	02-175100	
8T SAE 8	-	-	02-175101	
2G	1/4" BSPP	-	876702	02-175102
3G	3/8" BSPP	-	876703	02-175103
6H	SAE 6	-	876700	-
8H	SAE 8	-	876701	-

See section J for housing details.

**7** Free Flow Cracking Pressure

003 - 0.21 bar (3 psi) (anticavitation)	040 - 2,76 bar (40 psi)
010 - 0.69 bar (10 psi) (anticavitation)	065 - 4,48 bar (65 psi)
020 - 1,38 bar (20 psi)	100 - 6,90 bar (100 psi)
035 - 2,41 bar (35 psi)	180 - 12,4 bar (180 psi)
	210 - 14.5 bar (210 psi)

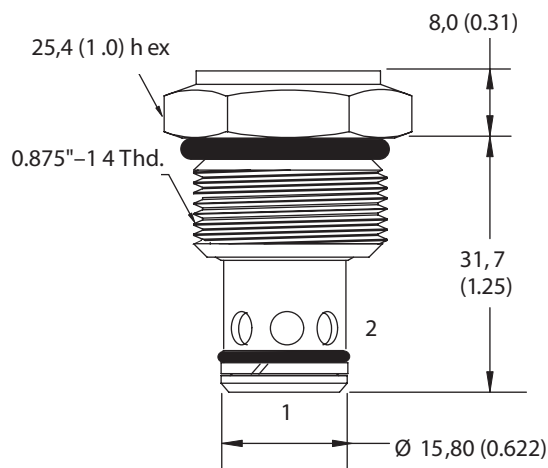
**8** Special Features

- 00 - None  
(Only required if valve has special features, omitted if "00")  
SS - 316 Stainless Steel external components

## Dimensions

mm (inch)

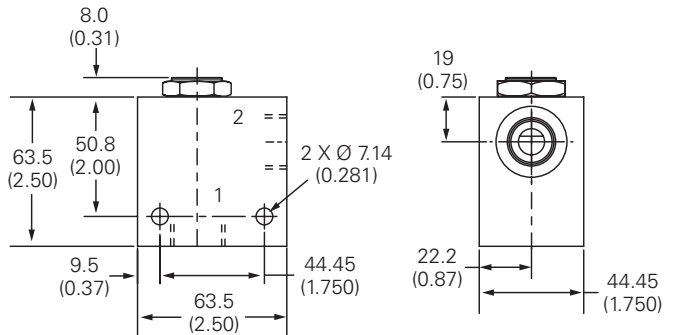
Cartridge Only  
Basic Code  
CV3-10



Torque cartridge in aluminum housing 47-54 Nm (35-40 ft. lbs). Torque cartridge in steel housing 68-70 Nm (50-55 ft. lbs)  
A - 108-122 Nm (80-90 ft. lbs)

S - 136-149 Nm (100-110 ft. lbs).

## Installation Drawing (Steel)



**WARNING**  
Aluminum housings can be used for pressures up to 210 bar (3000 psi). Steel housings must be used for operating pressures above 210 bar (3000 psi).