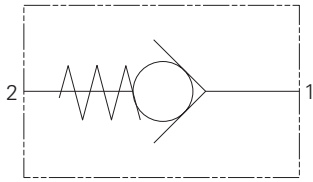


# 3CA20 - Check Valve

Direct acting, ball type

40 L/min (10 USgpm) • 350 bar (5000 psi)



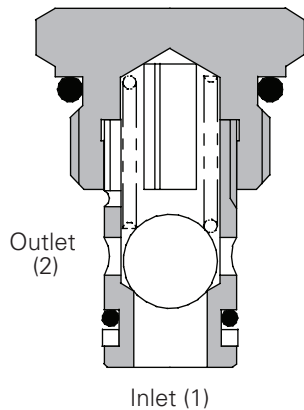
## Operation

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

Cartridge design with machined seats and precision ground balls gives excellent flow reseal characteristics. Installation into the 2-port 7/8" UNF cavity gives easy fitment and serviceability.

## Sectional View



## Performance Data

### Ratings and Specifications

Figures based on oil temperature of 40° C and viscosity of 32 cSt (150 SUS)

Rated flow	40 L/min (10 USgpm)
Maximum pressure	350 bar (5000 psi)
Cracking pressures	0.5 bar (7 psi)
	1.5 bar (22 psi)
	3.5 bar (50 psi)
	7.0 bar (100 psi)

Cartridge material	All steel construction. External parts electroless zinc plated.
Standard housing material	Standard aluminum (up to 210 bar). Add suffix "377" for steel option.
Mounting position	Unrestricted
Cavity number	A879 (See Section M)
Torque cartridge into cavity	45 Nm (33 lbs. ft.)
Weight	0.05 kg (0.11 lbs.)
Seal kit number	SK396 (Nitrile), SK396V (Viton®)
Recommended filtration level	BS5540/4 Class 18/3 (25 micron nominal)
Operating temperature	-30°C to +90°C (-22°C to +194°F)
Leakage	0.2 ml/min nominal
Nominal viscosity range	5 to 500 cSt

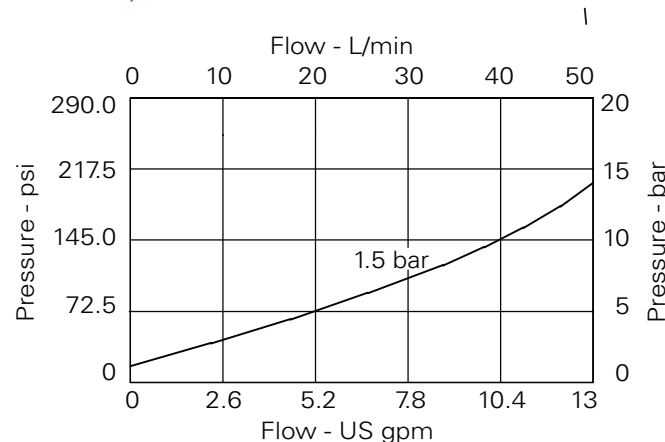
Viton is a registered trademark of E. I. DuPont

## Description

These cartridge check valves allow flow at a low pressure drop, with cracking pressure from 0.5 to 7 bar (7 to 100 psi) in the free flow direction and close to prevent flow in the reverse direction.

They fit into simply machined cavities and are therefore ideal for installation into custom designed Hydraulic Integrated Circuits, manifold blocks and other hydraulic equipment.

## Pressure Drop Curves

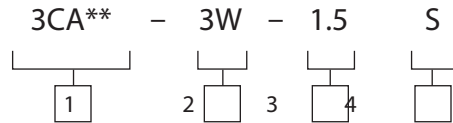


# 3CA20 - Check Valve

Direct acting, ball type

40 L/min (10 USgpm) • 350 bar (5000 psi)

## Model Code



**1** Basic Code  
3CA20 - Cartridge only  
3CA25 - Cartridge and body

**2** Port Size

Code	Port Size	Housing Number - Body Only	
		Aluminium	Steel
2W	1/4" BSP	A1485	
3W	3/8" BSP	A1043	A14175
6T	3/8" SAE	A15676	A14843

**3** Cracking Pressure  
0.5 - 0.5 bar (7 psi)  
1.5 - 1.5 bar (22 psi)  
3.5 - 3.5 bar (50 psi)  
7.0 - 7.0 bar (100 psi)

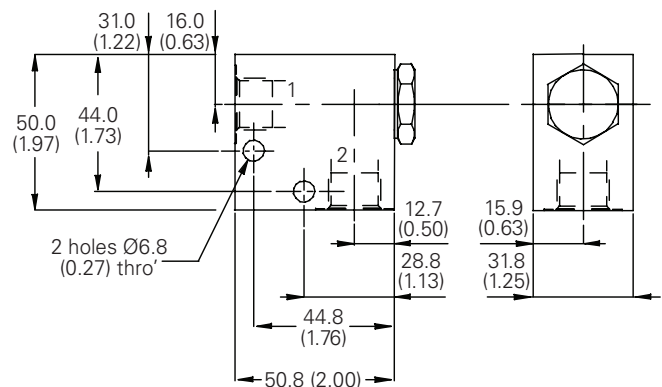
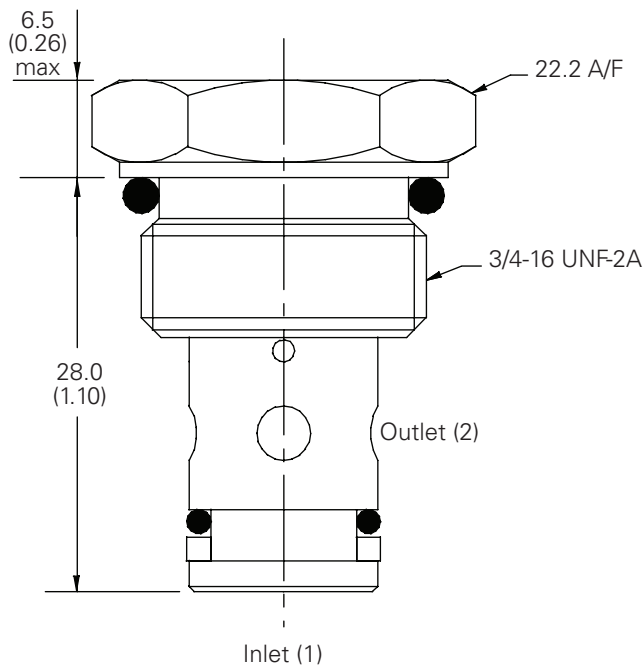
**4** Seals  
S - Nitrile (For use with most industrial hydraulic oils)  
SV - Viton (for high temperature and most special fluid applications)

## Dimensions

mm (inch)

Cartridge Only

Single Valve  
1/4", 3/8" Ports  
Basic Code  
3CA25

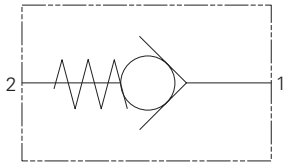


Note: For applications above 210 please consult our technical department or use the steel body option.

# CV3-8 - Check Valve

Direct acting, poppet type

30 L/min (8 USgpm) • 350 bar (5000 psi)



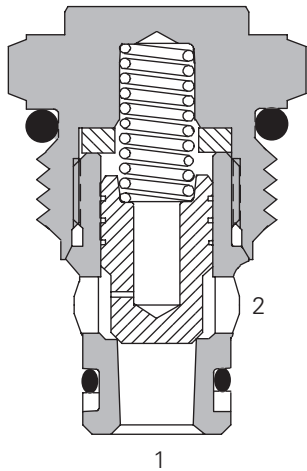
## Operation

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

Compact screw in cartridge design. Hardened steel ball 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)	350 bar (5000 psi)
Cartridge fatigue pressure (infinite life)	280 bar (4000 psi)
Rated flow	30 L/min (8 USgpm)
Cracking pressures @ 1.0 L/min (0.25 USgpm)	4 - 0.28 bar (4 psi) 10 - 0.70 bar (10 psi) 15 - 1.03 bar (15 psi) 25 - 1.70 bar (25 psi) 30 - 2.07 bar (30 psi) 60 - 4.00 bar (60 psi)

Internal leakage 5 drops/min. maximum @ 350 bar (5000 psi)

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

Cavity C-8-2

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 0.04 kg (0.09 lbs.)

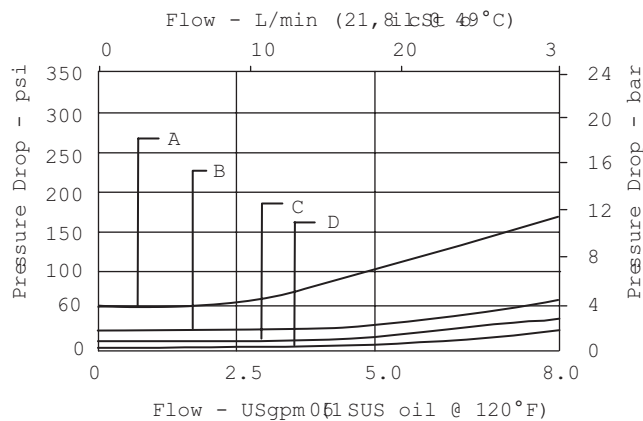
Seal kit 02-105875 (Buna-N)  
02-105877 (Viton)

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 - CV3-8-P-O-60  
B - CV3-8-P-O-25

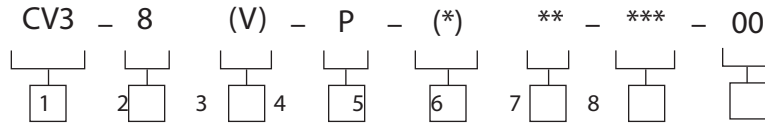
C - CV3-8-P-O-10  
D - CV3-8-P-O-4

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

# CV3-8 - Check Valve

Direct acting, poppet type  
30 L/min (8 USgpm) • 350 bar (5000 psi)

## Model Code



**1** Function  
CV3 - Check valve

**2** Size  
8 - 8 size

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

**4** Style  
P - Poppet

**5** Valve Housing Material  
Omit for cartridge only  
A - Aluminum  
S - Steel

**6** Port Size

Code	Port Size	Housing Number	
		Aluminum Fatigue rated	Steel Fatigue rated
0	Cartridge only		
4T	SAE 4	02-160730	02-160736
6T	SAE 6	02-160731	02-160737
8T	SAE 8	02-160732	02-160738
2G	1/4" BSPP	02-160727	02-160733
3G	3/8" BSPP	02-160728	02-160734

See section J for housing details.

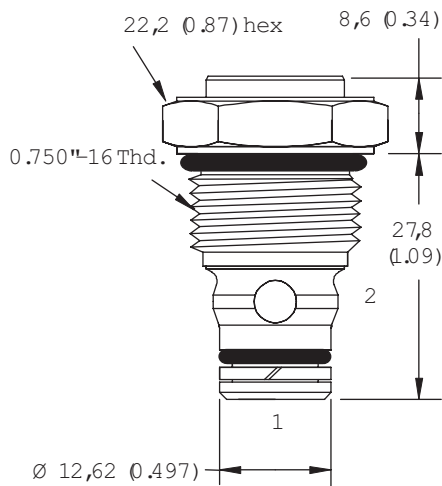
**7** Cracking Pressure  
004 - 0.28 bar (4 psi)  
010 - 0.70 bar (10 psi)  
015 - 1.03 bar (15 psi)  
025 - 1.70 bar (25 psi)  
030 - 2.07 bar (30 psi)  
060 - 4.00 bar (60 psi)

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

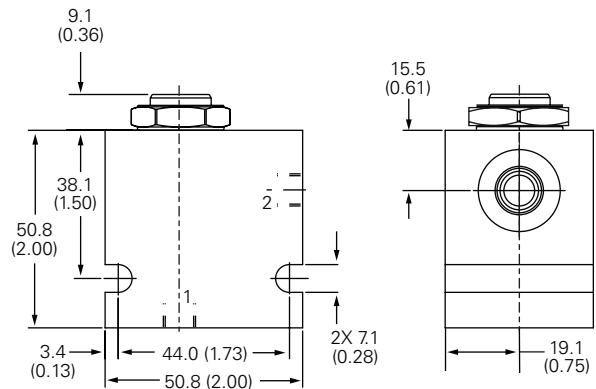
## Dimensions

mm (inch)

Cartridge Only  
Basic Code  
CV3-8



## Installation Drawing (Steel)



Note: Torque cartridge in aluminum or steel housing to 34-41 Nm (25-30 ft. lbs).



### 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).