Pressure on the valve port 2 causes the poppet to lift against the spring force, allowing the flow to the cylinder port 3. Reverse flow is prevented by the poppet reseating.

Pressure applied to the pilot port 1 will overcome the cylinder port pressure and lift the poppet from its seat, allowing flow from the cylinder to valve port.

Features

Hardened and ground poppet gives excellent flow capability for valve size, positive sealing and long working life. Cartridge construction allows installation in actuators, manifold blocks and Hydraulic Integrated Circuits. Fits the same cavity as the overcenter valves of a similar size.

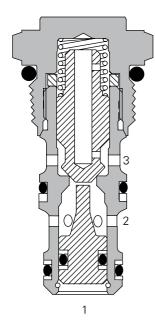
Aluminum or steel

0,07 kg (0.15 lbs.)

02-173326 (Buna-N)

02-173327 (Viton®)

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) 240 bar (35	
Cartridge fatigue pressure (infinite life)	240 bar (3500 psi)
Rated flow	19 L/min (5 USgpm)
Pilot ratio	3:1
Cracking pressure	15 - 1,0 bar (15 psi) 35 - 2,4 bar (35 psi) 65 - 4,5 bar (65 psi)
Internal leakage (all leak rates @ 240 bar (3500 psi) Port 3 to 2 Port 2 to 1 unsealed piston* *Unsealed piston only supplied with 15 psi spring option	5 drops/min. maximum at 240 bar (3500 psi) 140 cc/min. maximum, zero leakage with sealed piston
Temperature range	-40° to 120°C (-40° to 248°F)
Cavity	C-8-3
Fluids	All general purpose hydraulic fluids such as MIL - H-5606, SAE 10, SAE 20, etc
Recommended filtration	Cleanliness code 18/16/13

Viton is a registered trademark of E.I. DuPont

Standard housing materials

Weight, cartridge only

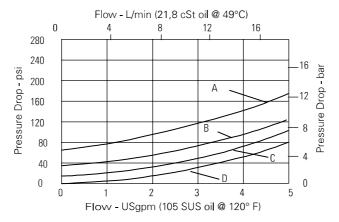
Seal kit

Description

Pilot check valves allow flow to pass in one direction, with a low pressure drop, then prevent reverse flow until pilot pressure is applied. There are many applications for this valve type, the most common being to lock and hold a cylinder, or another hydraulic actuator, in position.

These valves are ideally suited for fitting directly into a cylinder, giving economy of installation, direct control of cylinder movement and ease of servicing.

Pressure Drop



A – CV6 16*P 0000 050 00 **B** – CV6 16*P 0000 020 00 C - CV6 16*P 0000 005 00



SPC2-8 - Check Valve

Pilot-to-open, poppet type 19 L/min (5 USgpm) • 240 bar (3500 psi)

Model Code

SPC2 - 8 (X) -00 3 5 2 6 8

Basic Code

SPC2 - Single pilot check valve

2 Size

8 - 8 size

3 Seals

Blank - Buna-N

- Viton

U - Buna-N with no piston seals

- Viton with no piston

seals

4 Style **Port Size**

Code Port Size Housing Number			ber
		Aluminum Fatigue Rated	Steel Fatigue Rated
4T	SAE 4	02-160741	02-160745
6T	SAE 6	02-160742	02-160744
2G	1/4" BSPP	02-160739	02-160743
3G	3/8" BSPP	02-160740	02-160746

7 **Cracking Pressure**

15 - 1,0 bar (15 psi)

35 - 2,4 bar (35 psi)

65 - 4,5 bar (65 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)

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

P - Poppet

A - Aluminum

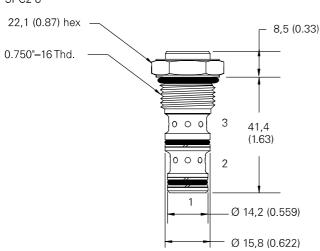
S - Steel

5 Valve Body Material

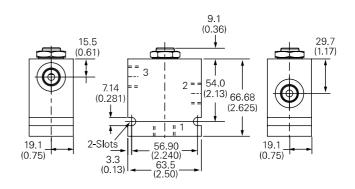
Omit for cartridge only

Cartridge Drawing

Basic Code SPC2-8



Installation Drawing (Steel)



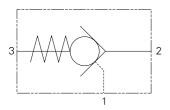
WARNING

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).





Pilot-to-open, poppet type 23 L/min (6 USgpm) • 240 bar (3500 psi)



Operation

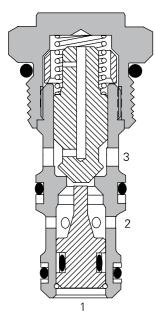
Pressure on the valve port 2 causes the poppet to lift against the spring force, allowing the flow to the cylinder port 3. Reverse flow is prevented by the poppet reseating.

Pressure applied to the pilot port 1 will overcome the cylinder port pressure and lift the poppet from its seat, allowing flow from the cylinder to valve port.

Features

Hardened and ground poppet gives excellent flow capability for valve size, positive sealing and long working life. Cartridge construction allows installation in actuators, manifold blocks and Hydraulic Integrated Circuits. Fits the same cavity as the overcenter valves of a similar size.

Sectional View



Performance Data

Ratings and Specifications

Performance data is typical with fluid at 21,8 cS	T (105 SUS) and	d 49°C (120°F)
Typical application pressure (all ports)		240 bar (3500 psi)
Cartridge fatigue pressure (infinite life)		240 bar (3500 psi)
Rated flow		23 L/min (6 USgpm)
Pilot ratio		4:1
Cracking pressure @ 1 L/min (0.25 USgpm)		025 - 1,72 bar (25 psi) 050 - 3,45 bar (35 psi) 100 - 6,90 bar (100 psi)
Internal leakage	Port 3 to 2	5 drops/min. maximum at 210 bar (3000 psi)
Temperature range		-40° to 120°C (-40° to 248°F)
Cavity		C-10-3
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
Weight, cartridge only		0,08 kg (0.18 lbs.)
Seal kit (check valve)		02-153267 (Buna-N) 02-173666 (Viton®)

Viton is a registered trademark of E.I. DuPont

Description

Pilot check valves allow flow to pass in one direction, with a low pressure drop, then prevent reverse flow until pilot pressure is applied. There are many applications for this valve type, the most common being to lock and hold a cylinder, or another hydraulic actuator, in position.

These valves are ideally suited for fitting directly into a cylinder, giving economy of installation, direct control of cylinder movement and ease of servicing.

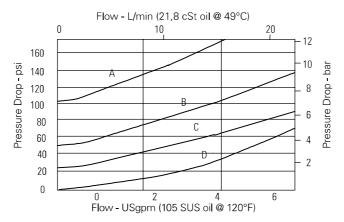


WARNING

Do not use Single Pilot Check Valves

in load holding applications where either overrunning loads are possible or load release speed is critical. Failure to observe these guidelines may result in bodily injury or damage to equipment.

Pressure Drop



A – SPC2-10-P-0-100 **B** – SPC2-10-P-0-50

C - SPC2-10-P-0-25

D - Port 3 to 2 (piloted open)





SPC2-10 - Check Valve

Pilot-to-open, poppet type 23 L/min (6 USgpm) • 240 bar (3500 psi)

Model Code

SPC2 - 10 (X) 00 7 4 5 2 3 6

1 **Function**

SPC2 - Single pilot check valve

Size 2

10 - 10 size

Seal Material

Blank - Buna-N

- Viton

U - Buna-N with no piston seals

- Viton with no piston W seals

4 Style

P - Poppet

5 **Port Size**

Code	Port Size	Housing Number	
		Aluminum Light Duty	Aluminum Fatigue Rated
0	Cartridge only		
3B	3/8" BSPP	02-173358	-
6T	SAE 6	566162	_
2G	1/4" BSPP	_	876705
3G	3/8" BSPP	_	876714
6H	SAE 6	_	876704
8H	SAE 8	_	876711

See section J for housing details.

Free Flow Cracking **Pressure**

25 - 1,72 bar (25 psi)

50 - 3,45 bar (50 psi) **100** - 6,90 bar (100 psi)

7 Special Features

00 - None

(Only required if valve has special features, omitted if "00")

SS - 316 Stainless Steel

Dimensions

mm (inch)

Torque cartridge housing

A - 47-54 Nm (35-40 ft. lbs).

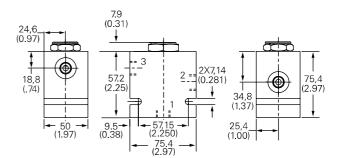
B - 68-70 Nm (50-55 ft. lbs)

Cartridge Drawing

Basic Code SPC2-10

8.0 (0.32) 25,4 (1.0) hex 0.875-14 Thd. 3 46,8 0 0 (1.84)0 0 0 2 Ø 15,80 (0.623) Ø 17,40 (0.684)

Installation Drawing



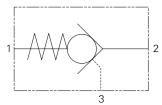
WARNING

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).





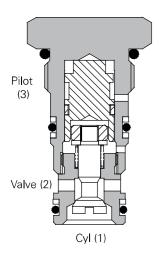


Pressure on the valve port 2 causes the poppet to lift against the spring force, allowing the flow to the cylinder port 1. Reverse flow is prevented by the poppet reseating. Pressure applied to the pilot port 3 will overcome the cylinder port pressure and lift the poppet from its seat, allowing flow from the cylinder to valve port.

Features

Hardened and ground poppet gives excellent flow capability for valve size, positive sealing and long working life. Cartridge construction allows installation in actuators, manifold blocks and Hydraulic Integrated Circuits. Fits the same cavity as the overcenter valves of a similar size.

Sectional View



Performance Data

Ratings and Specifications

Figures based on: Oil Temp = 40°C Viscosity = 32 cSt (150 SUS)			
Rated flow	30 L/min (8 USgpm)		
Max setting	350 bar (5000 psi)		
Pilot ratio	3:1		
Cartridge material	Working parts hardened & ground steel. Electroless zinc plated body.		
Standard housing material	Standard aluminium (up to 210 bar) Add suffix "377" for steel option		
Mounting position	Unrestricted		
Cavity number	A6610 (See section M)		
Torque cartridge into cavity	45 Nm (33 lbs ft)		
Weight	4CK30 0.08 kg (0.18 lbs) 4CK35 0.34 kg (0.75 lbs) 4CKK35 0.76 kg (1.67 lbs)		
Seal kit number	SK430 (Nitrile) SK430V (Viton®)		
Recommended filtration level	BS5540/4 Class 18/13 (25 micron nominal)		
Operating temperature	-30°C to +90°C (-22° to +194°F)		
Leakage	0.3 milliliters/min nominal (5 dpm)		
Nominal viscosity range	5 to 500 cSt		

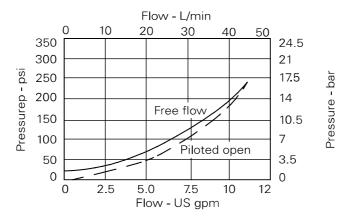
Viton is a registered trademark of E.I. DuPont

Description

Pilot check valves allow flow to pass in one direction, with a low pressure drop, then prevent reverse flow until pilot pressure is applied. There are many applications for this valve type, the most common being to lock and hold a cylinder, or another hydraulic actuator, in position.

These valves are ideally suited for fitting directly into a cylinder, giving economy of installation, direct control of cylinder movement and ease of servicing.

Pressure Drop





4CK30 - Check Valve

Pilot-to-open, poppet type 30 L/min (8 USgpm) • 350 Bar (5000 psi)

Model Code

4CK****

Port Size

Basic Code

4CK30 - Cartridge Only 4CK35 - Cartridge and Body 4CKK34 - Cartridges and

Dual Body

Pilot Port Size

1 - Internal

3 **Port Sizes**

Code

0000	1 311 3123	riousing runnistr Body City			
		Aluminium Single	Steel Single	Aluminium Double	Steel Double
3W	3/8" BSP. 1/4" BSP Pilot Port	B6743	B12823	B6836	B13803
6T	3/8" SAE. 1/4" SAE Pilot Port	B10536		B10805	
8T	1/2" SAE. 1/4" SAE Pilot Port	B7884	B11811	B30237	B11812

4 Seals

S - Nitrile (For use with most industrial hydraulic oils)

SV - Viton (For high temperature and most special fluid applications) 5 Optional Pilot Seal

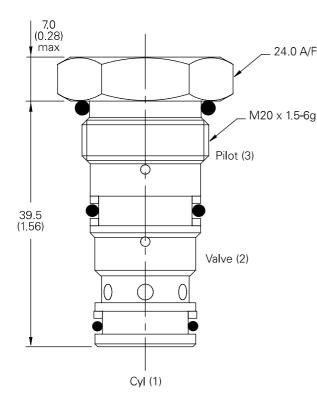
Omit if not required

Dimensions

mm (inch)

Cartridge Only Basic Code

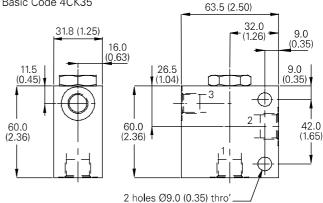
4CK30



Note: For applications above 210 bar (3000 psi) please consult our technical department or use the steel body option.

Single Valve

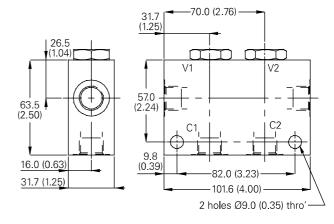
3/8", 1/2" Ports Basic Code 4CK35



Housing Number - Body Only

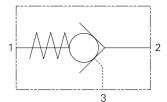
Dual Valve

3/8", 1/2" Ports Basic Code 4CKK34 Internally Cross Piloted







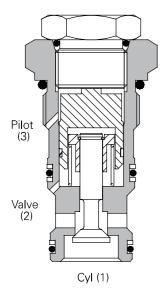


Pressure on the valve port 2 causes the poppet to lift against the spring force, allowing the flow to the cylinder port 1. Reverse flow is prevented by the poppet reseating. Pressure applied to the pilot port 3 will overcome the cylinder port pressure and lift the poppet from its seat, allowing flow from the cylinder to valve port.

Features

Hardened and ground poppet gives excellent flow capability for valve size, positive sealing and long working life. Cartridge construction allows installation in actuators, manifold blocks and Hydraulic Integrated Circuits. Fits the same cavity as the overcenter valves of a similar size

Sectional View



Performance Data

Ratings and Specifications

natings and opcomoditions			
Figures based on: Oil Temp = 40° C Viscosity = 32 cSt (150 SUS)			
Rated flow	90 L/min (24 USgpm)		
Max pressure	350 bar (5000 psi)		
Pilot ratio	4:1		
Cartridge material	Working parts hardened and ground steel. Electroless zinc plated body.		
Standard housing material	Standard aluminium (up to 210 bar). Add suffix "377" for steel option.		
Mounting position	Unrestricted		
Cavity number	A12336 (See Section M)		
Torque cartridge into cavity	90 Nm (66 lbs ft)		
Weight	4CK90 0.27 kg (0.61 lbs) 4CK95 1.33 kg (2.90 lbs) 4CKK95 2.03 kg (4.51 lbs)		
Seal kit number	SK832 (Nitrile) SK832V (Viton®)		
Recommended filtration level	BS5540/4 Class 18/13 (25 micron nominal)		
Operating temperature	-30°C to +90°C (-22° to +194°F)		
Leakage	0.3 milliliters/min nominal (5 dpm)		
Nominal viscosity range	5 to 500 cSt		

Viton is a registered trademark of E.I. DuPont

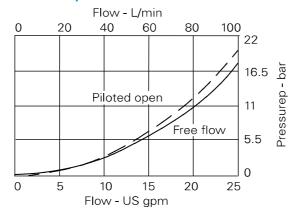
Description

G

Pilot check valves allow flow to pass in one direction, with a low pressure drop, then prevent reverse flow until pilot pressure is applied. There are many applications for this valve type, the most common being to lock and hold a cylinder, or another hydraulic actuator, in position.

These valves are ideally suited for fitting directly into a cylinder, giving economy of installation, direct control of cylinder movement and ease of servicing.

Pressure Drop







4CK90 - Check Valve

Pilot-to-open, poppet type 90 L/min (24 USgpm) • 350 bar (5000 psi)

Model Code

4CK*** - 1 4W - S 3

1 Basic Code

4CK90 - Cartridge Only **4CK95** - Cartridge and

Body **4CKK95** - Cartridges and

Dual Body

2 Pilot Port Sizes

1 - Internal

3 Port Sizes

Code	Port Size	Housing Nu	Housing Number - Body Valves Only			
		Aluminium Single	Steel Single	Aluminium Double	Steel Double	
4W	1/2" BSP 1/4" BSP Pilot Port	B13625	B13626	C13627	C13628	
8T	1/2" SAE 1/4" SAE Pilot Port	B10806	B10922	C10807	C11561	

4 Seals

S - Nitrile (For use with most industrial hydraulic oils)

SV - Viton (For high temperature and most special fluid applications) 5 Optional Pilot Seal
Omit if not required

Dimensions

mm (inch)

Cartridge Only

Basic Code
4CK90

18.5
(0.73)
max

M27 x 1.5-6g

Pilot (3)

Cyl (1)

Note: For applications above 210 bar (3000 psi) please consult our technical department.



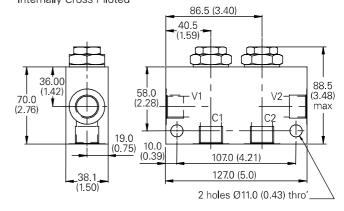


Complete Valve

1/2" Ports Basic Code . 38.1 (1.25) 4CK95 18.0 (0.71) 88.5 (3.48) 58.0 (2.28) 70.0 (2.76) max 19.0 10.0 (0.75)(0.39)56.0 (2.20)38.1_. (1.25) 76.2 (3.00) 2 holes Ø11.0 (0.43) thro'-

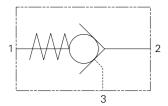
Dual Valve

1/2" Ports Basic Code 4CKK95 Internally Cross Piloted

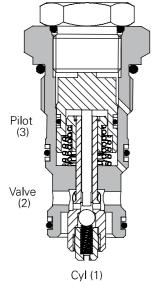


4CKD90 - Check Valve

Pilot-to-open, poppet type with decompression stage 90 L/min (24 USgpm) • 420 bar (6000 psi)



Sectional View



Operation

The ball and poppet are held onto their respective seats by spring force, ensuring positive sealing as long as the pressure on port 1 is equal to or greater than the pressure on port 2. As soon as the pressure on port 2 exceeds the pressure on port 1 plus the spring force, the valve opens from 2 to 1. In order to pass flow in the reverse direction, pilot pressure must be applied to port 3. Once this reaches the required level, the pilot piston acting on the pin in the Center of the poppet lifts the ball off its seat, enabling

the fluid to decompress and thus reducing the load pressure acting on port 1. As the load pressure decreases, the pilot pressure required to open the main stage also decreases and when the correct pilot pressure is reached, the main stage poppet is lifted off its seat by the advancing pilot piston, allowing full flow from 1 to 2.

When calculating the pilot pressure, it must be remembered that any back pressure on port 2 will cause this to increase on a 1:1 ratio.

Features

Decompression stage reduces hydraulic noise on rapid loss of pressure. Precision ground ball and hardened and ground poppet ensure positive sealing and long, trouble-free working life.

This valve is directly interchangeable with the 4CK90 check valve and 1CE*90 series overcenter valve.

Performance Data

Ratings and Specifications

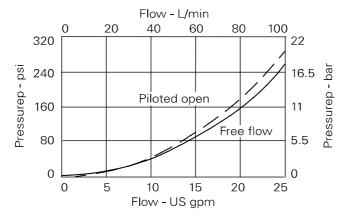
Ratings and Specifications	
Figures based on: Oil Temp = 40° C Viscosity = 32 cSt (150 SUS)	
Rated flow	90 L/min (24 USgpm)
Max pressure	Cylinder Port 1 420 bar (6000 psi) Ports 2 & 3 350 bar (5000 psi)
Pilot ratio	25:1 decompression stage 3: main stage
Cartridge material	Working parts hardened and ground steel. Electroless nickel plated body.
Standard Housing Material	Standard aluminium (up to 210 bar*). Add suffix "377" for steel option.
Mounting position	Unrestricted
Cavity number	A12336
Torque cartridge into cavity	90 Nm (66 lbs ft)
Weight	0.243 kg (0.54 lbs)
Seal kit number	SK986 (Nitrile) SK986V (Viton®)
Recommended filtration level	BS5540/4 Class 18/13 (25 micron nominal)
Operating temperature	-30°C to +90°C (-22° to +194°F)
Leakage	0.3 milliliters/min nominal (5 dpm)
Nominal viscosity range	5 to 500 cSt

Viton is a registered trademark of E.I. DuPont

Description

A decompression pilot check can be used in most applications that use a standard pilot operated check. Free flow in one direction and load holding in the other. The decompression feature allows locked-in pressure to decay in a controlled fashion, reducing hydraulic noise and instability caused by the rapid loss of energy from the actuator. The valve is effective in clamping circuits and when used with intensifiers or when there are high load induced pressures.

Pressure Drop







4CKD90 - Check Valve

Pilot-to-open, poppet type with decompression stage 90 L/min (24 USgpm) • 420 bar (6000 psi)

Model Code

4CK*** 4W S 1

1 Basic Code

4CKD90 - Cartridge Only 4CKD95 - Cartridge and Body

4CKKD95 - Cartridges and

Dual Body

Housing Number - Body Only Code **Port Size Aluminium** Steel **Aluminium** Steel Double **Double** Single Single 4W 1/2" BSP 1/4" BSP Pilot Port B13625 B13626 C13627 C13628 1/2" SAE 1/4" SAE Pilot Port B10806 B10922 C10807 C11561 8T

2 Pilot Port Sizes

1 - Internal

4 Seals

s -Nitrile (For use with most industrial hydraulic oils)

SV - Viton (For high temperature and most special fluid applications)

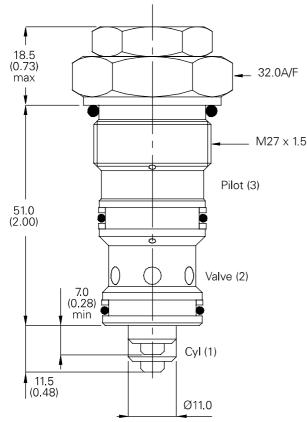
5 Optional Pilot Seal Omit if not required

Dimensions

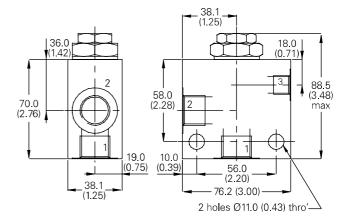
mm (inch)

Cartridge Only

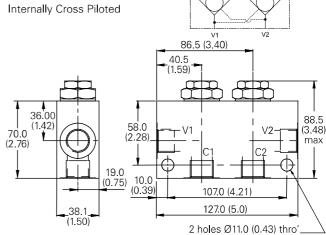
Basic Code 4CKD90



Complete Valve



Complete Valve Basic Code 4CKKD95



NoteNote



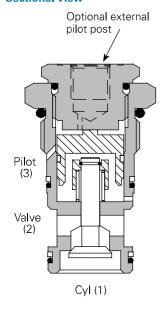


Pressure on the valve port 2 causes the poppet to lift against the spring force, allowing the flow to the cylinder port 1. Reverse flow is prevented by the poppet reseating. Pressure applied to the pilot port 3 will overcome the cylinder port pressure and lift the poppet from its seat, allowing flow from the cylinder to valve port.

Features

Hardened and ground poppet gives excellent flow capability for valve size, positive sealing and long working life. Cartridge construction allows installation in actuators, manifold blocks and Hydraulic Integrated Circuits. Fits the same cavity as the overcenter valves of a similar size.

Sectional View



Performance Data

Ratings and Specifications

natings and Specifications	
Figures based on: Oil Temp = 40° C Viscosity = 32 cSt (150 SUS)	
Rated flow	120 L/min (32 USgpm)
Max pressure	350 bar (5000 psi)
Pilot ratio	3:1
Cartridge material	Working parts hardened and ground steel. Zinc plated body.
Standard housing material	Standard aluminium (up to 210 bar). Add suffix "377" for steel option.
Mounting position	Unrestricted
Cavity number	A877 (See Section M)
Torque cartridge into cavity	100 Nm (74 lbs ft)
Weight	4CK120 0.28 kg (0.62 lbs) 4CK125 1.15 kg (2.54 lbs) 4CKK125 1.96 kg (4.32 lbs)
Seal kit number	SK381 (Nitrile) SK381V (Viton®)
Recommended filtration level	BS5540/4 Class 18/13 (25 micron nominal)
Operating temperature	-30°C to +90°C (-22° to +194°F)
Leakage	0.3 milliliters/min nominal (5 dpm)
Nominal viscosity range	5 to 500 cSt

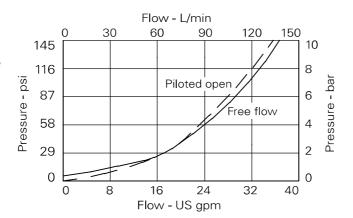
Viton is a registered trademark of E.I. DuPont

Description

Pilot check valves allow flow to pass in one direction, with a low pressure drop, then prevent reverse flow until pilot pressure is applied. There are many applications for this valve type, the most common being to lock and hold a cylinder, or another hydraulic actuator, in position.

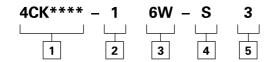
These valves are ideally suited for fitting directly into a cylinder, giving economy of installation, direct control of cylinder movement and ease of servicing.

Pressure Drop









1 Basic Code

4CK120 - Cartridge Only 4CK125 - Cartridge and Body 4CKK125 - Cartridges and

Dual Body

2 **Pilot Port Sizes**

Code	Port Size	
1	Internal	
2W	1/4" BSP (External Pilot). Omit for bodied valves	
4T	1/4" SAE (External Pilot). Omit for bodied valves	

4 Seals

- Nitrile (For use with most industrial hydraulic oils)

SV - Viton (For high temperature and mos special fluid applications)

Port Sizes - Bodied Valves Only

Code	Port Size	Housing Number - Body Only			
		Aluminium Single	Steel Single	Aluminium Double	Steel Double
6W	3/4" BSP 1/4" BSP Pilot Port	B6898	B5544	C2543	C1200
12T	3/4" SAE 1/4" SAE Pilot Port	B8200		C10629	C16434
16T	1" SAE 1/4" SAE Pilot Port	B10708	B11814		

5 Optional Pilot Seal

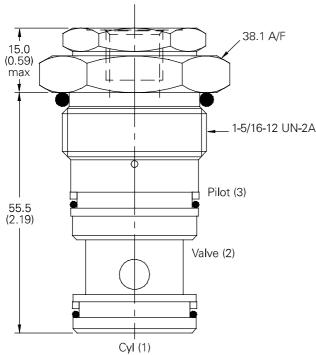
Omit if not required

Dimensions

mm (inch)

Cartridge Only

Basic Code 4CK120



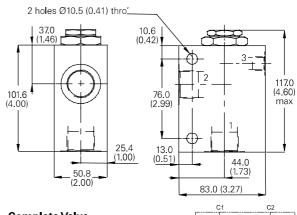
Note: For applications above 210 bar (3000 psi) please consult our technical department or use the steel body.



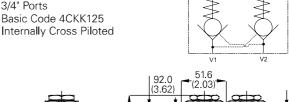


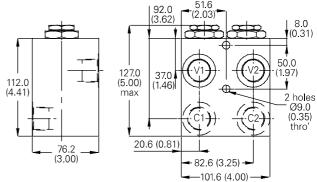
Complete Valve

3/4", 1/2" Ports Basic Code 4CK125



Complete Valve 3/4" Ports Basic Code 4CKK125





Pressure on the valve port 2 causes the poppet to lift against the spring force, allowing the flow to the cylinder port 1. Reverse flow is prevented by the poppet reseating. Pressure applied to the pilot port 3 will overcome the cylinder port pressure and lift the poppet from its seat, allowing flow from the cylinder to valve port.

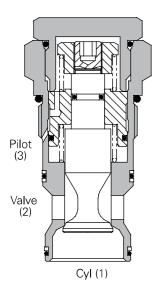
Features

Hardened and ground poppet gives excellent flow capability for valve size, positive sealing and long working life. Cartridge construction allows installation in actuators, manifold blocks and Hydraulic Integrated Circuits. Fits the same cavity as the overcenter valves of a similar size.

Sectional View

Performance Data

Ratings and Specifications



Ratings and Specifications	
Figures based on oil temp of 40° C and viscosity of 32 cSt (150 SUS)	
Rated flow	300 L/min (80 USgpm)
Max pressure	350 bar (5000 psi)
Pilot ratio	3:1
Cartridge material	Working parts hardened and ground steel. Zinc nickel plated body.
Standard housing material	Standard aluminium (up to 210 bar). Add suffix "377" for steel option.
Mounting position	Unrestricted
Cavity number	A6935 (See Section M)
Torque cartridge into cavity	150 Nm (110 lbs ft)
Weight	4CK300 0.28 kg (0.62 lbs) 4CK350 1.15 kg (2.54 lbs) 4CKK350 1.96 kg (4.32 lbs)
Seal kit number	SK683 (Nitrile) SK683V (Viton®)
Recommended filtration level	BS5540/4 Class 18/13 (25 micron nominal)
Operating temperature	-30°C to +90°C (-22° to +194°F)
Leakage	0.5 milliliters/min nominal (5 dpm)
Nominal viscosity range	5 to 500 cSt

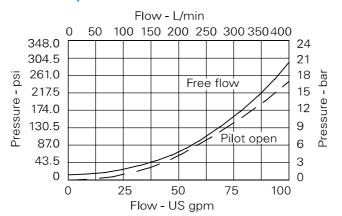
Viton is a registered trademark of E.I. DuPont

Description

Pilot check valves allow flow to pass in one direction, with a low pressure drop, then prevent reverse flow until pilot pressure is applied. There are many applications for this valve type, the most common being to lock and hold a cylinder, or another hydraulic actuator, in position.

These valves are ideally suited for fitting directly into a cylinder, giving economy of installation, direct control of cylinder movement and ease of servicing.

Pressure Drop

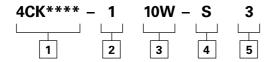


AON

4CK300 - Check Valve

Pilot-to-open, poppet type 300 L/min (80 USgpm) • 350 bar (5000 psi)

Model Code



Port Size

1 Basic Code

4CK300 - Cartridge Only4CK350 - Cartridge and Body

4CKK350 - Cartridges and Dual Body

2 Pilot Port Size

1 - Internal

3 Port Sizes

		Aluminium Single	Steel Single	Aluminium Double	Steel Double
10W	1 1/4" BSP 1/4" BSP Pilot Port	B6814	B8610	C8704	C8705
20T	1 1/4" SAE 1/4" SAE Pilot Port	B10630	B11474	C10811	C11564

4 Seals

Code

S - Nitrile (For use with most industrial hydraulic oils)

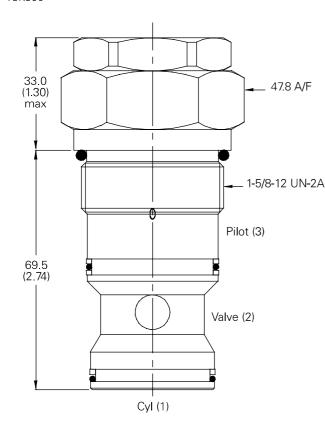
SV - Viton (For high temperature and most special fluid applications) 5 Optional Pilot Seal
Omit if not required

Dimensions

mm (inch)

Cartridge Only

Basic Code 4CK300



Note: For applications above 210 bar (3000 psi) please consult our technical department or use the steel body.





Single Valve 1 1/4" Ports

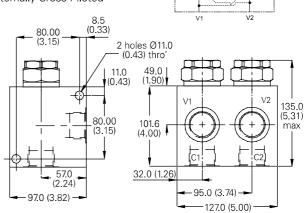
Basic Code 4CK350 23.5 (0.93) 10.5 (0.41) 10.5 (0.41) 3 2 135.0 (5.31) 101.6 (4.00) (3.15) 80.0 (3.15) 80.0 (3.15) 80.0 (3.15) 80.0 (3.15) 80.0 (3.15) 80.0 (3.15)

Housing Number - Body Only

Dual Valve

1 1/4" Ports Basic Code 4CKK350 Internally Cross Piloted

2 holes Ø10.5 (0.41) thro'



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

EATON Screw-In Cartridge Valves E-VLSC-MC001-E December 2009

1 Basic Code

4CK36 -Cartridge and Body Through Ported4CKB35 -Cartridge and Body Banjo Mounted4CKG35 -Cartridge and Body Gasket Mounted

4CKK35 - Cartridge and Dual Body

4CK156 - Cartridge and Body Through Ported 4CBK150 - Cartridge and Body Banjo Mounted 4CKG150 - Cartridge and Body Gasket Mounted 4CK356 - Cartridge and Body Through Ported 4CKG350 - Cartridge and Body Gasket Mounted

3 Seals

S - Nitrile (For use with most industrial hydraulic oils)

SV - Viton (For high temperature and most special fluid applications)

4 Optional Pilot Seal

3 - Required Omit if not required

2 Port Sizes

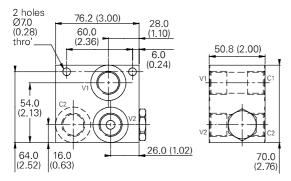
Code Port Size Housing Number

	Aluminium	Steel	Aluminium	Aluminum	Steel	Aluminum	Steel
Cartridge	Through Poi Body - Only	rted	Banjo Mounted Sub- Assembly	Gasket Mounted Sub-Assembly		Cross Piloted Sub-Assembly	
3/8" BSP	B13542	B13543	AXP13617-3W-S	BXP13621-3W-S	-	BXP24147-3W-S	BXP24147-3W-S-377
3/8" SAE	-	-	-	-		BXP24147-6T-S-377	1
Cartridge							
3/4" SAE	B13629	B13630	AXP13565-6W-S	BXP13634-6W-S	BXP13634-6W-S-377		
Cartridge							
1 1/4" BSP	C13637	C13638		CXP20647-10W-S	CXP20647-10W-S-377		
	3/8" BSP 3/8" SAE Cartridge 3/4" SAE Cartridge	Cartridge Through Poi Body - Only 3/8" BSP B13542 3/8" SAE - Cartridge 3/4" SAE B13629 Cartridge	Cartridge Through Ported Body - Only 3/8" BSP B13542 B13543 3/8" SAE - - Cartridge - - 3/4" SAE B13629 B13630 Cartridge - -	Cartridge Through Ported Body - Only Banjo Mounted Sub- Assembly 3/8" BSP B13542 B13543 AXP13617-3W-S 3/8" SAE - - - Cartridge - - - 3/4" SAE B13629 B13630 AXP13565-6W-S Cartridge	Cartridge Through Ported Body - Only Banjo Mounted Sub- Assembly Gasket Mounted Sub-Assembly 3/8" BSP B13542 B13543 AXP13617-3W-S BXP13621-3W-S 3/8" SAE - - - - Cartridge - - - - 3/4" SAE B13629 B13630 AXP13565-6W-S BXP13634-6W-S Cartridge - - - -	Cartridge Through Ported Body - Only Banjo Mounted Sub- Assembly Gasket Mounted Sub-Assembly 3/8" BSP B13542 B13543 AXP13617-3W-S BXP13621-3W-S - 3/8" SAE - - - - - Cartridge - - - - - 3/4" SAE B13629 B13630 AXP13565-6W-S BXP13634-6W-S BXP13634-6W-S-377 Cartridge - - - - - -	Cartridge Through Ported Body - Only Banjo Mounted Sub- Assembly Gasket Mounted Sub- Assembly Cross Piloted Sub- Assembly 3/8" BSP B13542 B13543 AXP13617-3W-S BXP13621-3W-S - BXP24147-3W-S 3/8" SAE - - - - BXP24147-6T-S-377 Cartridge 3/4" SAE B13629 B13630 AXP13565-6W-S BXP13634-6W-S BXP13634-6W-S-377 Cartridge - - - - - -

Complete Valves - 4CK30 Cartridge, 3/8" Ports

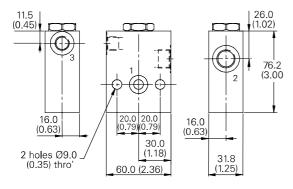
Complete Valve

G



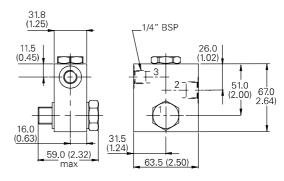
Complete Valve

Gasket Mounted • Basic Code 4CKG35



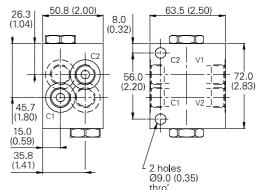
Complete Valve

Banjo Mounted • Basic Code 4CBK35



Complete Valve

Internally Cross Piloted • Basic Code 4CKK35







4CK Series - Check Valve

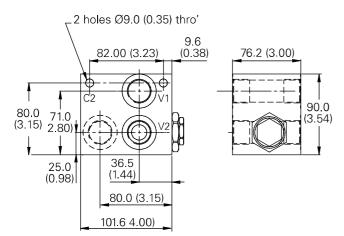
Alternative Body Arrangements for 30 to 300 Liters/min Valves

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

Complete Valves - 4CK120 Cartridge, 3/4" Ports

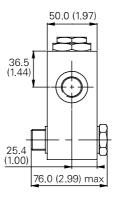
Complete Valve

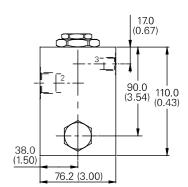
Through Ported Basic Code 4CK156



Complete Valve

Banjo Mounted Basic Code 4CBK150

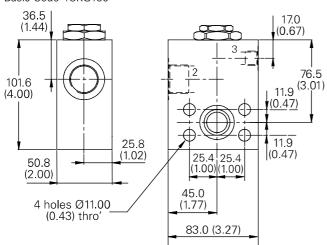




SAE 6000 PSI Flange Ports - 4CK120 Cartridge, 3/4" Ports

Complete Valve

Gasket Mounted Basic Code 4CKG150

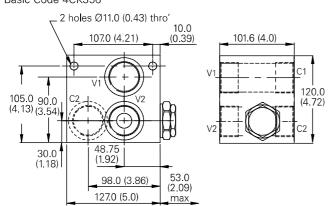


Complete Valves - 4CK300 Cartridge, 1 1/4" Ports

Complete Valve

Through Ported
Basic Code 4CK356

Integrated Hydraulics

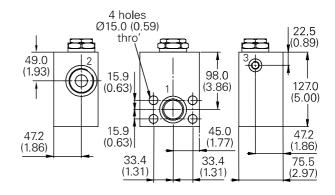


FAT•N

SAE 6000 PSI Flange Ports - 4CK300 Cartridge, 1 1/4" Ports

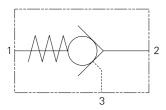
Complete Valve

Gasket Mounted
Basic Code 4CKG350

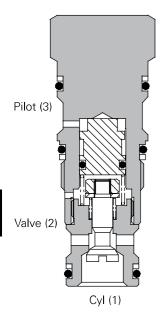


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

EATON Screw-In Cartridge Valves E-VLSC-MC001-E December 2009



Sectional View



Operation

Pressure on the valve port 2 causes the poppet to lift against the spring force, allowing the flow to the cylinder port 1. Reverse flow is prevented by the poppet reseating. Pressure applied to the pilot port 3 will overcome the cylinder port pressure and lift the poppet from its seat, allowing flow from the cylinder to valve port.

Features

Hardened and ground poppet gives excellent flow capability for valve size, positive sealing and long working life. Cartridge construction allows installation in actuators, manifold blocks and Hydraulic Integrated Circuits. Fits the same cavity as the overcenter valves of a similar size.

Performance Data

Ratings and Specifications

Figures based on oil temperature of 40° C and viscos	sity of 32 cSt (150 SUS)	
Rated flow	30 L/min (8 USgpm)	
Maximum pressure	350 bar (5000 psi)	
Pilot ratio	3:1 and 5:1	
Cartridge material	Working parts hardened and ground steel. Zinc plated body.	
Mounting position	Unrestricted	
Cavity number A2009		
Torque cartridge into cavity 45 Nm (3:		
Weight	0.18 kg (0.39 lbs)	
Seal kit number	SK1079 (Nitrile) SK1079V (Viton®)	
Recommended Filtration level	BS5540/4 Class 18/13 (25 micron nominal)	
Operating temperature -30° to +90° C (-22° to +1		
Leakage 0.3 ml/min n		
Nominal viscosity range	5 to 500 cSt	

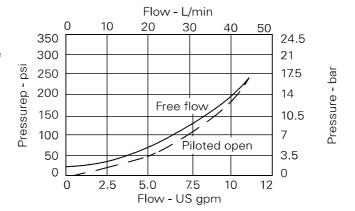
Viton is a registered trademark of E. I. DuPont

Description

Pilot check valves allow flow to pass in one direction, with a low pressure drop, then prevent reverse flow until pilot pressure is applied. There are many applications for this valve type, the most common being to lock and hold a cylinder, or another hydraulic actuator, in position.

These valves are ideally suited for fitting directly into a cylinder, giving economy of installation, direct control of cylinder movement and ease of servicing.

Pressure Drop



4SK30 - Check Valve

Pilot-to-open, poppet type 30 L/min (8 USgpm) • 350 bar (5000 psi)

Model Code 4SK30 - 3 - S 3

1 Basic Code

4SK30 - Complete valve

2 Pilot Ratio

3 - 3:1

5 - 5:1

3 Seals

S - Nitrile (for use with most industrial hydraulic oils)

SV - Viton (for high temperature & most special fluid applications)

4 Optional Pilot Seal

Omit if not required

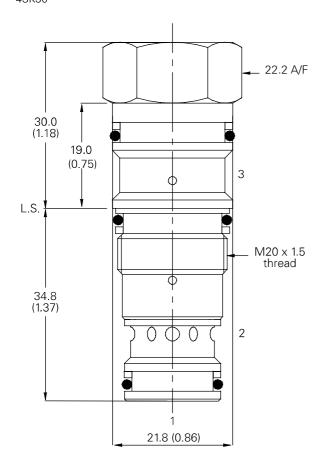
Dimensions

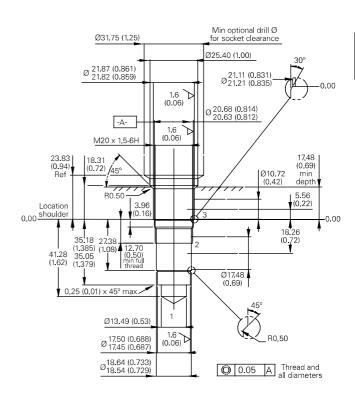
mm (inch)

Cartridge Only

Basic Code 4SK30

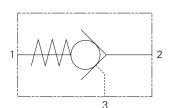
Cavity









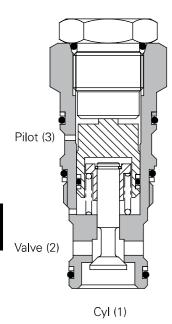


Pressure on the valve port 2 causes the poppet to lift against the spring force, allowing the flow to the cylinder port 1. Reverse flow is prevented by the poppet reseating. Pressure applied to the pilot port 3 will overcome the cylinder port pressure and lift the poppet from its seat, allowing flow from the cylinder to valve port.

Features

Hardened and ground poppet gives excellent flow capability for valve size, positive sealing and long working life. Cartridge construction allows installation in actuators, manifold blocks and Hydraulic Integrated Circuits. Fits the same cavity as the overcenter valves of a similar size.

Sectional View



Performance Data

Ratings and Specifications

Ratings and Specifications				
Figures based on oil temperature of 40° C and viscosity of 32 cSt (150 SUS)				
Rated flow	90 L/min (24 USgpm)			
Maximum pressure	350 bar (5000 psi)			
Pilot ratio	4:1			
Cartridge material	Working parts hardened and ground steel. Zinc plated body			
Mounting position	Unrestricted			
Cavity number	A20092-T2A			
Torque cartridge into cavity	60 Nm (44 lbs. ft.)			
Weight	0.39 kg (0.86 lbs.)			
Seal kit number	SK1093 (Nitrile) SK1093V (Viton®)			
Recommended Filtration level	BS5540/4 Class 18/13 (25 micron nominal)			
Operating temperature	-30°C to +90°C (-22° to +194°F)			
Leakage	0.3 ml/min nominal (5 dpm)			
Nominal viscosity range	5 to 500 cSt			

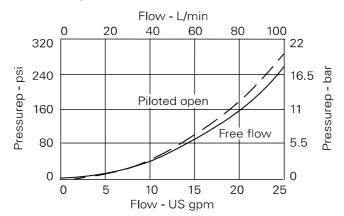
Viton is a registered trademark of E. I. DuPont

Description

Pilot check valves allow flow to pass in one direction, with a low pressure drop, then prevent reverse flow until pilot pressure is applied. There are many applications for this valve type, the most common being to lock and hold a cylinder, or another hydraulic actuator, in position.

These valves are ideally suited for fitting directly into a cylinder, giving economy of installation, direct control of cylinder movement and ease of servicing.

Pressure Drop





4SK90 - Check Valve

Pilot-to-open, poppet type 90 L/min (24 USgpm) • 350 Bar (5000 psi)

Model Code 4SK90

1 **Basic Code** 2 Pilot Ratio

4SK90 - Complete valve

4 - 4:1

3 Seals

- Nitrile (for use with most industrial hydraulic oils)

SV - Viton (for high temperature and most special fluid applications) **Optional Pilot Seal**

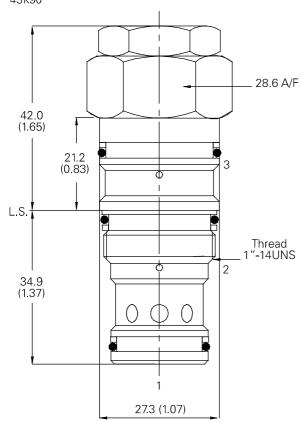
Omit if not required

Dimensions

mm (inch)

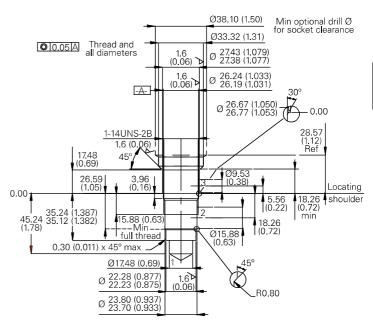
Cartridge Only

Basic Code 4SK90



Cavity

Basic Code A20092-T2A Form drill TD-2A Form reamer TR-2A



Note: For applications above 210 bar (3000 psi) please consult our technical department or use the steel body.

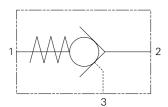




G-311.A

4SK140 Series - Check Valve

Pilot-to-open, poppet type 140 L/min (37 USgpm) • 350 bar (5000 psi)



Operation

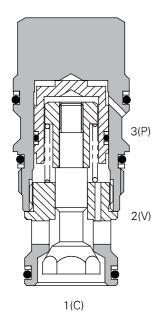
Pressure on the valve port 2 causes the poppet to lift against the spring force, allowing the flow to the cylinder port 1. Reverse flow is prevented by the poppet reseating.

Pressure applied to the pilot port 3 will overcome the cylinder port pressure and lift the poppet from its seat, allowing flow from the cylinder to valve port.

Features

Hardened and ground poppet gives excellent flow capability for valve size, positive sealing and long working life. Cartridge construction allows installation in actuators, manifold blocks and Hydraulic Integrated Circuits. Fits the same cavity as the overcenter valves of a similar size.

Sectional View



Performance Data

Ratings and Specifications

Figures based on oil temperature of 40° C and viscosity of 32 cSt (150 SUS)				
Rated flow	140 L/min (37 USgpm)			
Maximum pressure 350 ba				
Pilot ratio	3:1			
Cartridge material	Working parts hardened and ground steel. Zinc plated body.			
Mounting position	Unrestricted			
Cavity number	A20094-T17A			
Torque cartridge into cavity	200 Nm (150 lbs. ft.)			
Weight	0.44 kg (0.96 lbs.)			
Seal kit number	SK1116 (Nitrile) SK1116V (Viton®)			
Recommended filtration level	BS5540/4 Class 18/13 (25 micron nominal)			
Operating temperature	-30°C to +90°C (-22° to +194°F)			
Leakage 0.3 ml/min nominal (5 dp				
Nominal viscosity range				

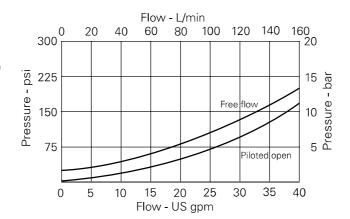
Viton is a registered trademark of E. I. DuPont

Description

Pilot check valves allow flow to pass in one direction, with a low pressure drop, then prevent reverse flow until pilot pressure is applied. There are many applications for this valve type, the most common being to lock and hold a cylinder, or another hydraulic actuator, in position.

These valves are ideally suited for fitting directly into a cylinder, giving economy of installation, direct control of cylinder movement and ease of servicing.

Pressure Drop



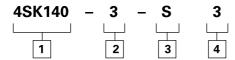




4SK140 Series - Check Valve

Pilot-to-open, poppet type 140 L/min (37 USgpm) • 350 bar (5000 psi)

Model Code



Function

4SK140 - Complete valve

2 Pilot Ratio

3 - 3:1

3 Seals

4 Optional Pilot Seal Omit if not required

- Nitrile (for use with most industrial hydraulic oils)

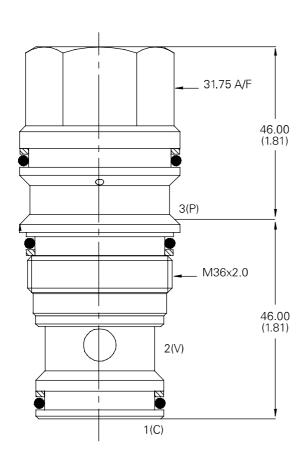
> SV - Viton (for high temperature and most special fluid applications)

Dimensions

mm (inch)

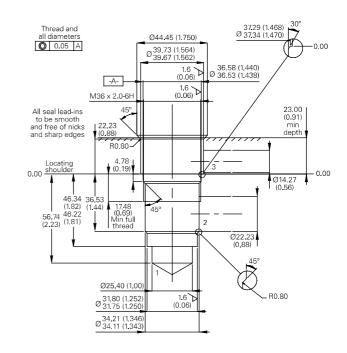
Cartridge Only

Basic Code 4SK140



Cavity

Basic Code A20094-T17A Form drill TD-17A Form reamer TR-17A

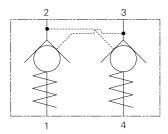






DPC2-8 - Check Valve

Dual, pilot-to-open, poppet type 19 L/min (5 USgpm) • 240 bar (3500 psi)



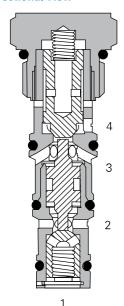
Operation

The valve allows flow from port 2 to port 1 or from port 3 to port 4 when the spring bias is overcome. Flow is blocked from ports 4 to 3 and from 1 to 2 until pilot pressure is applied to ports 2 and 3 respectively.

Features

Hardened and ground poppets to give minimal internal leakage and long life.

Sectional View



Performance Data

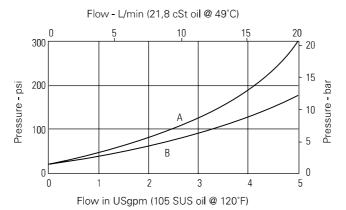
Ratings and Specifications

Performance data is typical with fluid at 21,8 cST (105 SUS) a	and 49°C (120°F)
Typical application pressure (all ports)	240 bar (3500 psi)
Cartridge fatigue pressure (infinite life)	240 bar (3500 psi)
Rated inlet flow	19 L/min (5 USgpm)
Pilot ratio	3:1
Maximum internal leakage Ports 2 to 3 and 3 to 2: Ports 4 to 3 and 1 to 2:	140 cc/min. (8.5 in³/min.) @ 240 bar (3500 psi) 5 drops/min. @ 240 bar (3500 psi)
Free flow cracking pressure @ 1 L/min (0.25 USgpm)	1,72 bar (25 psi)
Temperature range	-40° to 120° C (-40° to 248° F)
Cavity	C-8-4
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 (0.18 lbs.)
Seal kit	02-370387 Urethane

Description

This is a dual pilot-to-open check valve ideal for stabilizer cylinders fitting directly into the cylinder reducing pipework to a minimum.

Pressure Drop



WARNING

Do not use Pilot-to-Open Check Valves in load holding applications where either

overrunning loads are possible or load release speed is critical. Failure to observe these guidelines may result in bodily injury or damage to equipment.

A - Port 2 to Port 1 **B** – Port 3 to Port 4



=A(O)



DPC2-8 - Check Valve

Dual, pilot-to-open, poppet type 19 L/min (5 USgpm) • 240 bar (3500 psi)

Model Code

DPC2 - 8 25 00 5

1 **Function**

DPC2 - Dual pilot operated check

2 Size

8 - 8 size

3 Seal Material

U - Urethane

4 Pilot Leakage

A - Standard

Crack Pressure

25 - 1,7 bar (25 psi)

Body

Omit for cartridge only

A - Aluminum

S - Steel

7 **Port Size**

Code	Port Size	Housing Numb	Housing Number		
		Aluminum Fatigue Rated	Steel Fatigue Rated		
0	Cartridge only				
2G	1/4" BSPP	02-160747	02-160753		
3G	3/8" BSPP	02-160748	02-160754		
4T	SAE 4	02-160749	02-160751		
6T	SAE 6	02-160750	02-160752		

See section J for housing.

8 Special Features

(Only required if valve has special features, omitted if "00")

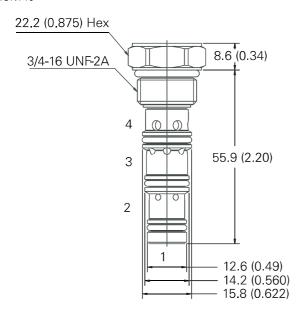
Dimensions

mm (inch)

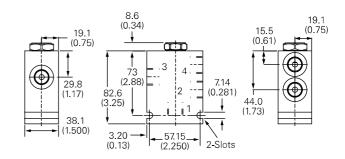
Note: Torque cartridge in Aluminum or Steel housing to 34-41 Nm (25-30 ft. lbs).

Cartridge Only

Basic Code 4SK140



Installation Drawing (Steel)





WARNING

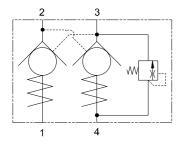
Aluminum housings can be used for pressures up to 210 bar (3000

psi). Steel housings must be used for operating pressures above 210 bar (3000 psi).





Dual, pilot-to-open with thermal relief 25 L/min (6.6 USgpm) • 300 bar (4350 psi)



Operation

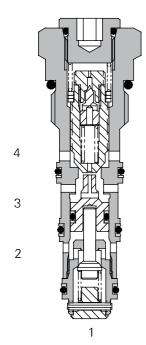
Pressure on the valve port causes the poppet to lift against the spring force, allowing the flow to the cylinder port. Reverse flow is prevented by the poppet reseating. Pressure applied to the pilot port will overcome the cylinder port pressure and lift the poppet from its seat, allowing flow from the cylinder to valve

In dual pilot check valves, each pilot section is cross connected to the opposite line giving automatic pilot operation in both directions. When the pressure in C2 rises above the setting of the relief valve, the relief valve will open, allowing flow to the V2 port, relieving pressure on the cylinder.

Features

Hardened and ground poppet gives excellent flow capability for valve size, positive sealing and long working life. Cartridge construction allows installation in actuators, manifold blocks and Hydraulic Integrated Circuits.

Sectional View



Performance Data

Ratings and Specifications

of 40° C and viscosity of 32 cSt (150 SUS)
25 L/min (6.6 USgpm)
300 bar (4350 psi)
3:1
Working parts hardened and ground steel. Electroless zinc plated body.
Standard aluminum (up to 210 bar). Add suffix "377" for steel option.
Unrestricted
A12744 (See Section M)
30 Nm (22 lbs. ft.)
4CKKT50 0.08 kg (0.18 lbs) 4CKKT55 0.34 kg (0.75 lbs)
SK1120 (Nitrile) SK1120V (Viton®))
BS5540/4 Class 18/13 (25 micron nominal)
–30° to +90° C (-22° to +194°F)
C1 - V1 1.0 ml/min nominal (15 dpm) C2 - V2 0.3 ml/min nominal (5 dpm)
5 to 500 cSt

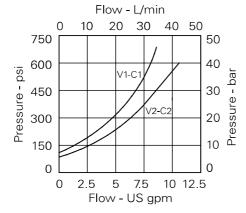
Viton is a registered trademark of E. I. DuPont

Description

Pilot check valves allow flow to pass in one direction, with a low pressure drop, then prevent reverse flow until pilot pressure is applied. There are many applications for this valve type, the most common being to lock and hold a cylinder, or another hydraulic actuator, in position.

A pilot relief valve will protect the cylinder and hoses from thermal expansion of the hydraulic fluid. The maximum flow through the relief is 1.0l/ min.

Pressure Drop





Flow - L/min 10 20 30 40 50 750 50 40 600 Pressure - psi 30 450 C2-V2 20 300 10 150 0 0 2.5 0 5 7.5 10 12.5 Flow - US gpm



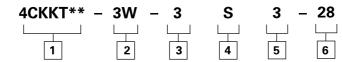


EATON Screw-In Cartridge Valves E-VLSC-MC001-E December 2009

4CKKT - Check Valve

Dual, pilot-to-open with thermal relief 25 L/min (6.6 USgpm) • 300 bar (4350 psi)

Model Code



1 Basic Code

4CKKT50 - Cartridge only **4CKKT55** - Cartridge and body

2 Port Size - Bodied Valves Only

Port Size	Housing Number	
	Aluminium Dual	
3/8" BSP	B19240	
3/8" SAE	B19241	
1/2" BSP	B19228	
1/2" SAE	B19229	
	3/8" BSP 3/8" SAE 1/2" BSP	

3 Pilot Ratio

3 - 3:1

4 Seals

S - Nitrile (For use with most industrial hydraulic oils

SV - Viton (For high temperature and most special fluid applications) 5 Optional Pilot Seal

3 - Standard Omit if not required

6 Pressure Setting

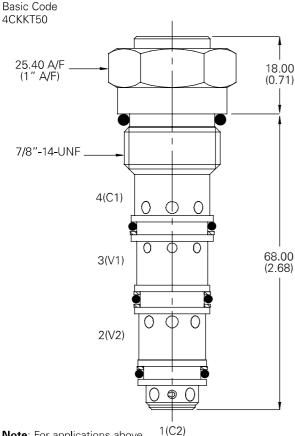
24 - 240 bar (3500 psi)

28 - 280 bar (4000 psi) **35** - 350 bar (5000 psi)

Description

mm (inch)

Cartridge Only

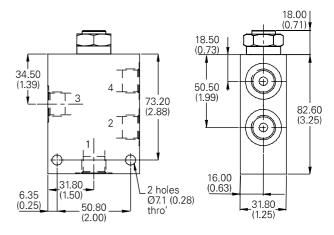


Note: For applications above 210 bar (3000 psi) please consult our technical department or use the steel body option.

Integrated Hydraulics FAT•N

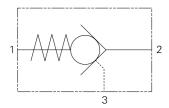
Dual Valve

3/8" Ports 4CKKT55 Internally Cross -Piloted



4KD25 - Check Valve

Pilot-to-open with decompression stage 25 L/min (6 USgpm) • 700 bar (10000 psi)



Operation

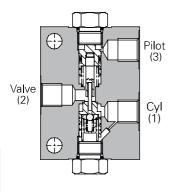
In free flow direction, flow through inlet unseats the poppet and flows out of the cylinder port. When the control valve is centered the load is locked. When pilot pressure is applied the piston unseats the small poppet in the center of

the main poppet. Flow through this small seat area lowers the load or locked pressure (decompression stage). With load pressure reduced the main poppet is then piloted fully open allowing reverse flow.

Features

Decompression feature for low pilot pressure requirements and to reduce hydraulic noise on rapid loss of pressure.

Sectional View



Performance Data

Ratings and Specifications

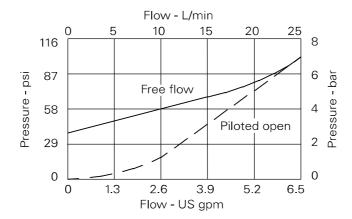
Figures based on oil temperature of 40° C and visco	osity of 32 cSt (150 SUS)
Rated flow	25 L/min (6 USgpm)
Maximum pressure	700 bar (10000 psi) Cylinder Port 140 bar (2000 psi) Pilot Port
Pilot ratio	25:1 Decompression 4:1 Full Flow
Body material	Steel
Mounting position	Line mounted
Weight	0.8 kg (1.8 lbs.)
Seal kit number	SK1060 (Nitrile) SK1060V (Viton®)
Recommended filtration level	BS5540/4 Class 18/13 (25 micron nominal)
Operating temperature	-30° to +90° C (-22° to +194°F)
Nominal viscosity range	5 to 500 cSt

Viton is a registered trademark of E. I. DuPont

Description

Used to lock a cylinder or part of a circuit and prevent reverse flow until pilot pressure is applied. For use in high pressure, low flow circuits and circuits requiring decompression. Can be used in conjunction with the 1T16 pressure intensifier. See page J-42.

Pressure Drop



4KD25 - Check Valve

Pilot-to-open with decompression stage 25 L/min (6 USgpm) • 700 bar (10000 psi)

Model Code

4KD25 - N 2W - S 3

1 Basic Code

4KD25 - Complete valve

2 Adjustment means

N - Fixed

Port Sizes - Bodied Valves Only

2W - 1/4" BSP

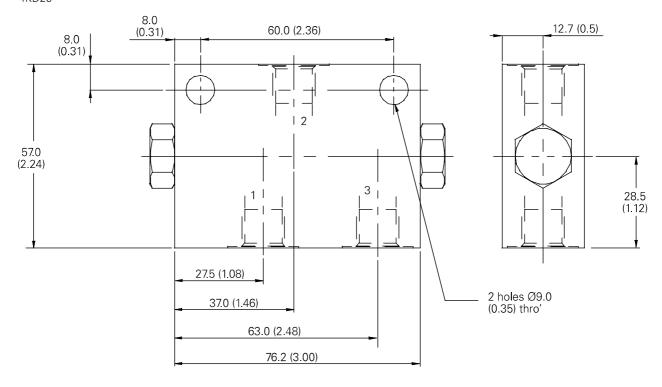
- 4 Seals
- **S** Nitrile (for use with most industrial hydraulic oils)
- **SV** Viton (for high temperature and most special fluid applications)
- 5 'O' Ring on Pilot Piston
- **3** Standard Omit if not required

Dimensions

mm (inch)

Complete Valve

1/4" Ports Basic Code 4KD25







Pressure on the cylinder port causes the ball to lift against the spring force, allowing flow through to the valve port.
Reverse flow is prevented by the ball reseating. Pressure applied to the pilot port will hold the ball against its seat, preventing flow from cylinder to valve.

Features

Easy flow path gives good pressure to flow characteristics and hardened components ensure a long working life. Cartridge construction allows installation in actuators, manifold blocks and Hydraulic Integrated Circuits. They fit the same cavities as the 4CK pilotto-open check valves, so care should be taken when selecting the valve.

Sectional View

G

Pilot (3) Valve (2) Cyl (1)

Performance Data

Ratings and Specifications

Figures based on oil temperature of 40° C and visc	osity of 32 cSt (150 SUS)
Rated flow	30 L/min (8 USgpm)
Maximum pressure	350 bar (5000 psi)
Pilot ratio	2:1
Cartridge material	Working parts hardened and ground steel. Zinc nickel plated body.
Standard housing material	Standard aluminum (up to 210 bar). Add suffix"377" for steel option
Mounting position	Unrestricted
Cavity number	A6610 (See Section M)
Torque cartridge into cavity	45 Nm (33 lbs. ft.)
Weight	0.08 kg (0.18 lbs)
Seal kit number	SK829 (Nitrile SK829V (Viton®)
Recommended Filtration level	BS5540/4 Class 18/13 (25 micron nominal)
Operating temperature	-30° to +90°C (-22° to +194°F)
Leakage	0.3 ml/min nominal (5 dpm)
Nominal viscosity range	5 to 500 cSt

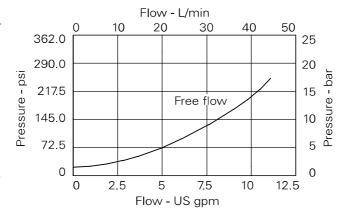
Viton is a registered trademark of E. I. DuPont

Description

Pilot to close check valves allow flow to pass in one direction, with a low pressure drop to prevent reverse flow. When the pilot pressure is applied, flow is prevented in either direction. The pilot ratio of 2:1 allows a lower pressure in the pilot line to hold the valve closed.

The 5CK series are check cartridges ideally suited for fitting directly onto a cylinder. They are ideal for use in regenerative circuits, accumulator dump circuits and in control of cylinders or motors.

Pressure Drop







5CK30 - Check Valve

Pilot-to-close. ball type 30 L/min (8 USgpm) • 350 bar (5000 psi)

Model Code

5CK*** 1 - 3W - S 2

1 Basic Code

5CK30 - Cartridge only5CK35 - Cartridge & body

2 Pilot Port Size

1 - Internal Omit for line valves 3 Port Size - Bodied Valves Only

Code	Port Size	Housing Number	
		Aluminum Steel	
3W	3/8" BSP 1/4" BSP Pilot Port	B6743 B12823	
6T	3/8" SAE 1/4" SAE Pilot Port	B10536	
8T	1/2" SAE 1/4" Pilot Port	B11811	

4 Seals

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

5 Pilot Ratio

2 - 2:1

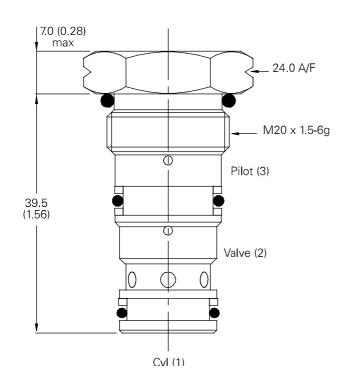
Dimensions

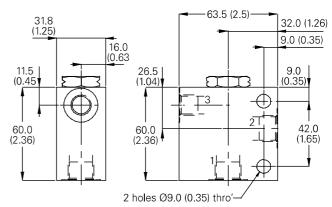
mm (inch)

Cartridge Only

Basic Code 5CK30

Single Valve 3/8", 1/2" Ports Basic Code 5CK35





Note: For applications above 210 bar (3000 psi) please consult our technical department or use the steel body option.





Pressure on the cylinder port causes the ball to lift against the spring force, allowing flow through to the valve port. Reverse flow is prevented by the ball reseating. Pressure applied to the pilot port will hold the ball against its seat, preventing flow from cylinder to valve.

Features

Easy flow path gives good pressure to flow characteristics and hardened components ensure a long working life. Cartridge construction allows installation in actuators, manifold blocks and Hydraulic Integrated Circuits. They fit the same cavities as the 4CK piloto-open check valves, so care should be taken when selecting the valve.

Sectional View

Pilot (3) Valve (2) Cyl (1)

Performance Data

Ratings and Specifications

Figures based on oil temperature of 40° C and visc	osity of 32 cSt (150 SUS)
Rated flow	120 L/min (32 USgpm)
Maximum pressure	350 bar (5000 psi)
Pilot ratio	2:1
Cartridge material	Working parts hardened and ground steel. Zinc nickel plated body.
Standard housing material	Standard aluminum (up to 210 bar*). Add suffix" 377" for steel option.
Mounting position	Unrestricted
Cavity number	A877
Torque cartridge into cavity	100 Nm (74 lbs. ft.)
Weight	0.28 kg (0.62 lbs)
Seal kit number	SK833 (Nitrile) SK833 (Viton®)
Recommended Filtration level	BS5540/4 Class 18/13 (25 micron nominal)
Operating temperature	-30° to +90° C (-22° to +194°F)
Leakage	0.3 ml/min nominal (5 dpm)
Nominal viscosity range	5 to 500 cSt

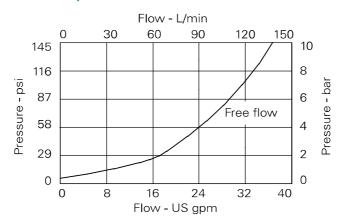
Viton is a registered trademark of E. I. DuPont

Description

Pilot to close check valves allow flow to pass in one direction, with a low pressure drop to prevent reverse flow. When the pilot pressure is applied, flow is prevented in either direction. The pilot ratio of 2:1 allows a lower pressure in the pilot line to hold the valve closed.

The 5CK series are check cartridges ideally suited for fitting directly onto a cylinder. They are ideal for use in regenerative circuits, accumulator dump circuits and in control of cylinders or motors.

Pressure Drop







5CK120 - Check Valve

Pilot-to-close, ball type 120 L/min (32 USgpm) • 350 bar (5000 psi)

Model Code

5CK***	1 -	- 3W -	- S	2
1	2	3	4	5

1 Function

5CK120 - Cartridge only **5CK125** - Cartridge and body

2 Pilot Port Size

1 - Internal Omit for line valves

3 Port Size

Code	Port Size	ze Housing Number	
		Aluminum	Steel
6W	3/4" BSP 1/4" BSP/SAE Pilot Port	B6898	B5544
12T	3/4" SAE 1/4" SAE Pilot Port	B8200	
16T	1" SAE 1/4" SAE Pilot Port	B10708	B11814

4 Seals

S - Nitrile (for use with most industrial hydraulic oils)

SV - Viton (for high temperature and most special fluid applications)

5 Pilot Ratio

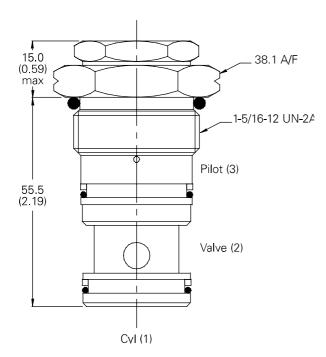
2 - 2:1

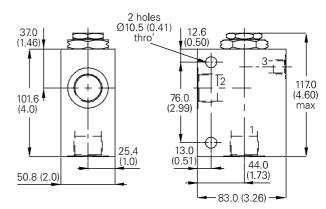
Dimensions

mm (inch)

Cartridge Only

Basic Code 5CK120 Single Valve 3/4", 1" Ports Basic Code 5CK125



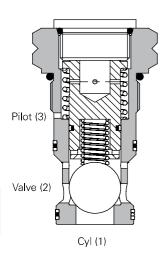


Note: For applications above 210 bar (3000 psi) please consult our technical department or use the steel body option.





Sectional View



| ' t

Operation

Pressure on the cylinder port causes the ball to lift against the spring force, allowing flow through to the valve port. Reverse flow is prevented by the ball reseating. Pressure applied to the pilot port will hold the ball against its seat, preventing flow from cylinder to valve.

Features

Easy flow path gives good pressure to flow characteristics and hardened components ensure a long working life. Cartridge construction allows installation in actuators, manifold blocks and Hydraulic Integrated Circuits. They fit the same cavities as the 4CK pilotto-open check valves, so care should be taken when selecting the valve.

Performance Data

Ratings and Specifications

Figures based on oil temperature of 40° C and visc	cosity of 32 cSt (150 SUS)
Rated flow	250 L/min (65 USgpm)
Maximum pressure	350 bar (5000 psi)
Pilot ratio	2:1
Cartridge material	Working parts hardened and ground steel. Zinc nickel plated body.
Standard housing material	Standard aluminum (up to 210 bar*). Add suffix "377" for steel option.
Mounting position	Unrestricted
Cavity number	A6935
Torque cartridge into cavity	150 Nm (110 lbs. ft.)
Weight	0.28 kg (0.62 lbs)
Seal kit number	SK834 (Nitrile) SK834V (Viton®)
Recommended Filtration level	BS5540/4 Class 18/13 (25 micron nominal)
Operating temperature	-30° to +90°C (-22° to +194°F)
Leakage	0.3 ml/min nominal (5 dpm)
Nominal viscosity range	5 to 500 cSt
·	

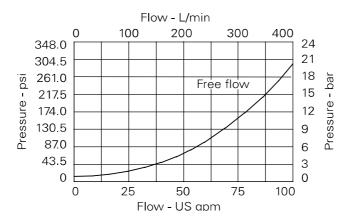
Viton is a registered trademark of E. I. DuPont

Description

Pilot to close check valves allow flow to pass in one direction, with a low pressure drop to prevent reverse flow. When the pilot pressure is applied, flow is prevented in either direction. The pilot ratio of 2:1 allows a lower pressure in the pilot line to hold the valve closed.

The 5CK series are check cartridges ideally suited for fitting directly onto a cylinder. They are ideal for use in regenerative circuits, accumulator dump circuits and in control of cylinders or motors.

Pressure Drop





5CK300 - Check Valve

Pilot-to-close, ball type 250 L/min (65 USgpm) • 350 bar (5000 psi)

Model Code

5CK*** **3W** S 1 4

1 **Basic Code**

5CK300 - Cartridge only 5CK350 - Cartridge & body

Pilot Port Size

1 - Internal Omit for line valves 3 Port Size - Bodied Valves Only

Code	Port Size	Housing Number - Body Only	
		Aluminum	Steel
10W	1 1/4" BSP 1/4" BSP/SAE Pilot Port	B6814	B8610
20T	1 1/4" SAE 1/4" BSP/SAE Pilot Port	B10630	B11474

4 Seals

- Nitrile (for use with most industrial hydraulic oils)
- SV Viton (for high temperature and most special fluid applications)
- 5 Pilot Ratio

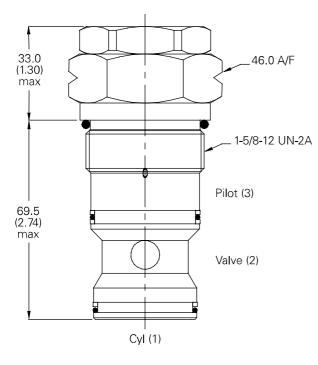
2 - 2:1

Dimensions

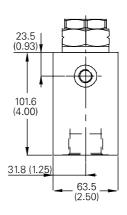
mm (inch)

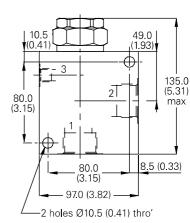
Cartridge Only

Basic Code 5CK300



Single Valve 1 1/4" Ports Basic Code 5CK350





Note: For applications above 210 bar (3000 psi) please consult our technical department or use the steel body option.



