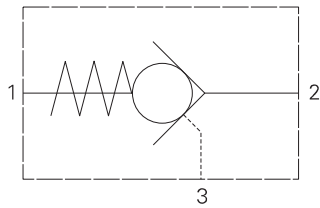
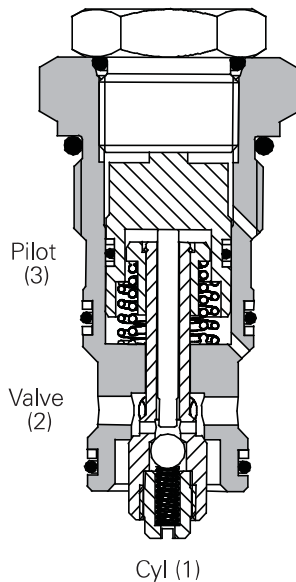


4CKD90 - Check valve

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

Figures based on: Oil Temp = 40° C Viscosity = 32 cSt (150 SUS)

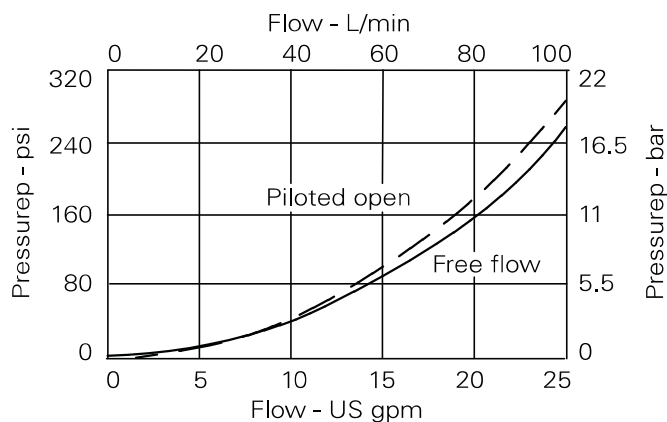
Rated flow	90 L/min (24 USgpm)
Max pressure	Cylinder Port 1 420 bar (6000 psi) Ports 2 & 3 350 bar (5000 psi)
Pilot ratio	25:1 decompression stage 3: main stage
Cartridge material	Working parts hardened and ground steel. Electroless nickel plated body.
Standard Housing Material	Standard aluminium (up 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

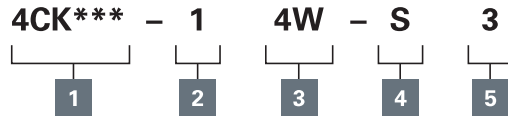


Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

4CKD90 - Check valve

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

Model code



1 Basic code

4CKD90 - Cartridge only
4CKD95 - Cartridge and Body
4CKKD95 - Cartridges and Dual Body

2 Pilot port sizes

1 - Internal

3 Port sizes

Code	Port size	Housing number - body 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

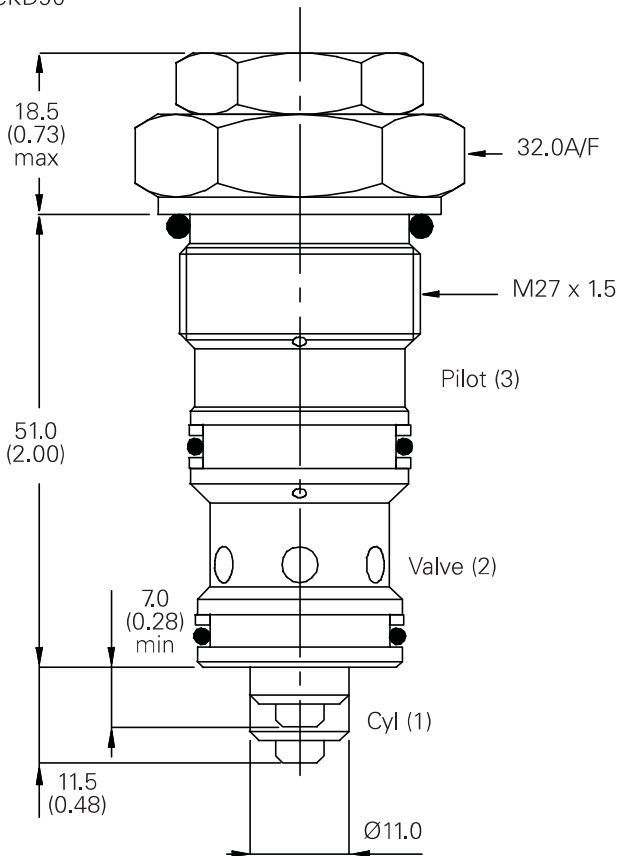
Omit if not required

Dimensions

mm (inch)

Cartridge only

Basic code
4CKD90

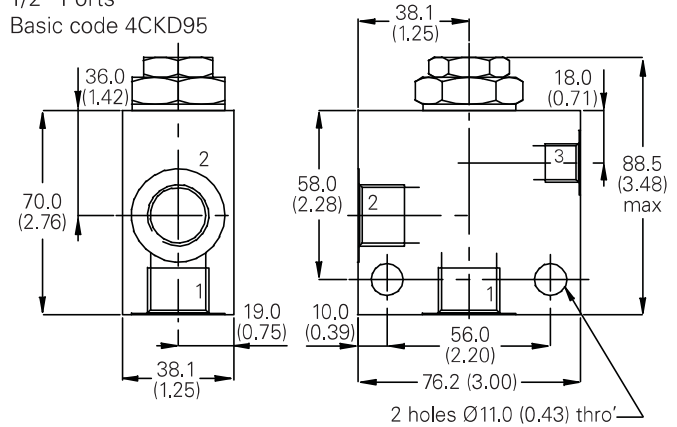


Note: For applications above 210 bar (3000 psi) please consult our technical department or use the steel body option.

Note: Ensure cavity clears nose end of cartridge.

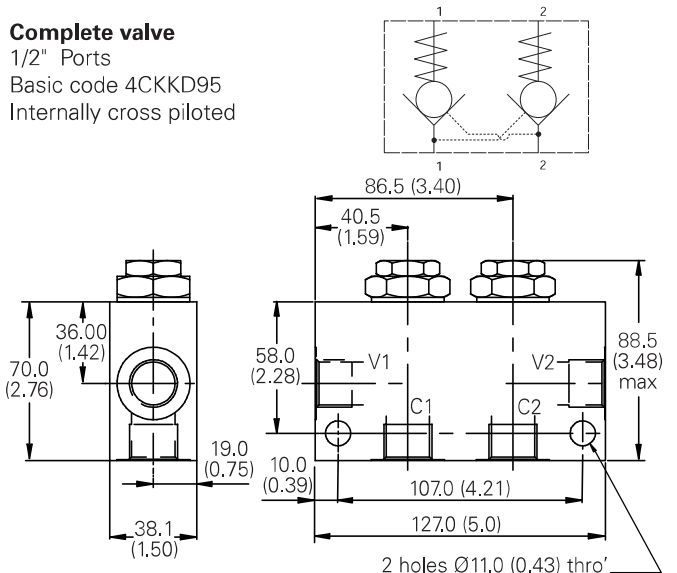
Complete valve

1/2" Ports
Basic code 4CKD95



Complete valve

1/2" Ports
Basic code 4CKKD95
Internally cross piloted



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