

Hydraulic and Pneumatic Check Valves

up to 828 bar, 190 litres per minute

Superior performance
throughout the full
operational range

Features:

- 316L stainless steel
- Arctic Service options to -60°C
- Low cost solution
- NACE MR-01-75 option



Hydraulic Check Valves - Type HCV

Reliability and Innovation in directional control valves

INTRODUCTION:-

Bifold Fluidpower in-line check valves feature compact ball check valve cartridges. Valve seats are PEEK; the ball and spring are stainless steel. Valve body material is 316 S11 stainless steel conforming to NACE Std MR-01-75. The rugged, two piece body construction permits the cartridge to be easily replaced. The standard cracking pressure is 3 psi nominal.

OPERATING PARAMETERS:-

Working Pressure / Flow Rates :-

Size	Working Pressure (bar)				Flow Rating (lpm) (nominal)	Pressure drop (bar) @ flow rating
	207	414	690	828		
04	✓	✓	✓		10	5
3/8MP				✓	tba	tba
06	✓	✓	✓		10	5
08	✓	✓			70	4.5
12	✓	✓			190	tba
16	✓				190	tba

Operating Media:-

Mineral oil, water glycol mixtures, some chemicals (Consult Bifold Fluidpower).

Working Temperature:-

Refer to elastomer options, valve selection chart.

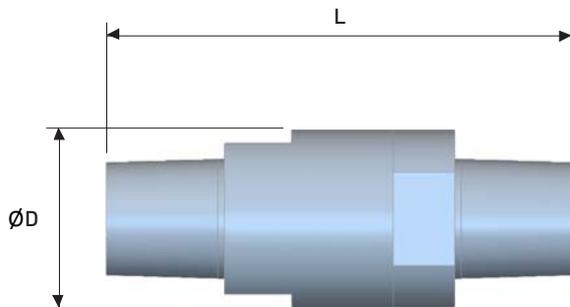
SELECTION CHART:-

NOTE:- Inlet & outlet connections must be specified as equal sizes

HCV hydraulic service check valve				Model Code	
04F	1/4" NPT	female		Inlet Connection	
04M	1/4" NPT	male			
38MPF		9/16" autoclave type MP female			
38MPM		9/16" autoclave type MP male			
06F	3/8" NPT	female			
06M	3/8" NPT	male			
08F	1/2" NPT	female			
08M	1/2" NPT	male			
12F	3/4" NPT	female			
12M	3/4" NPT	male			
16F	1" NPT	female			
16M	1" NPT	male			
04F	1/4" NPT	female			Outlet Connection
04M	1/4" NPT	male			
38MPF		9/16" autoclave type MP female			
38MPM		9/16" autoclave type MP male			
06F	3/8" NPT	female			
06M	3/8" NPT	male			
08F	1/2" NPT	female			
08M	1/2" NPT	male			
12F	3/4" NPT	female			
12M	3/4" NPT	male			
16F	1" NPT	female			
16M	1" NPT	male			
03	207 bar	(3000 psi)	all sizes	Working Pressure	
06	414 bar	(6000 psi)	1/4", 3/8", 1/2" & 3/4" NPT		
10	690 bar	(10000 psi)	1/4" & 3/8" NPT		
12	828 bar	(12000 psi)	3/8MP only		
3	3 psi nominal			Cracking Pressure	
S	Nitrile (std)	(-30°C to +130°C)		O-ring Material	
V	Viton	(-20°C to +180°C)			
SA	Low Temp Nitrile	(-40°C to +130°C)			
HCV - 04F - 04M - 12 - 3 - S				Ordering Example	

INSTALLATION:-

Overall dimension



NOTE:- these dimensions apply to both pneumatic and hydraulic 3000 psi units

Model	L (mm)	D (mm)	Weight (Kg)
04F/04F	43.5	19.05	0.07
04F/04M	51.5	19.05	0.07
04M/04F	52.0	19.05	0.07
04M/04M	60.0	19.05	0.07
08F/08F	65	31.75	0.27
08F/08M	72	31.75	0.28
08M/08F	76	31.75	0.28
08M/08M	83	31.75	0.26
12F/12F	89	50.8	tba
12F/12M	96	50.8	
12M/12F	96	50.8	
12M/12M	103	50.8	
16F/16F	89	50.8	tba
16F/16M	96	50.8	
16M/16F	96	50.8	
16M/16M	103	50.8	

Pneumatic Check Valves - Type PCV

OPERATING MEDIA:

- Air, sweet and sour gas

MATERIALS OF CONSTRUCTION:

- Body:- stainless steel 316L
- Fasteners:- Metric A4 18/10 316 grade stainless steel
- Seals:- Viton (standard). Alternative elastomers available for extreme conditions

OPERATING PRESSURE:

- 0-13 bar standard

TEMPERATURE RANGE:

Refer to elastomer options, valve selection chart.

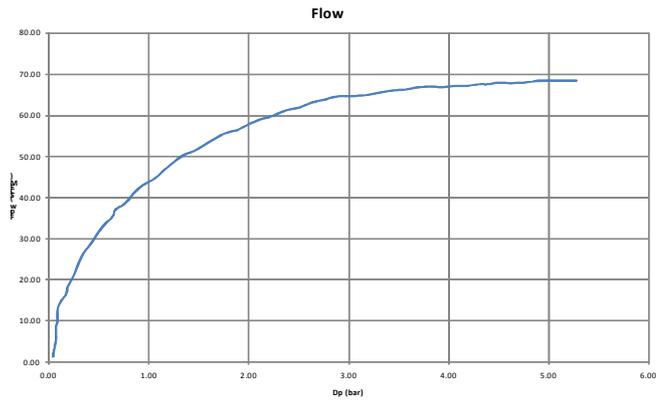
SELECTION CHART:

NOTE:- Inlet & outlet connections must be specified as equal sizes

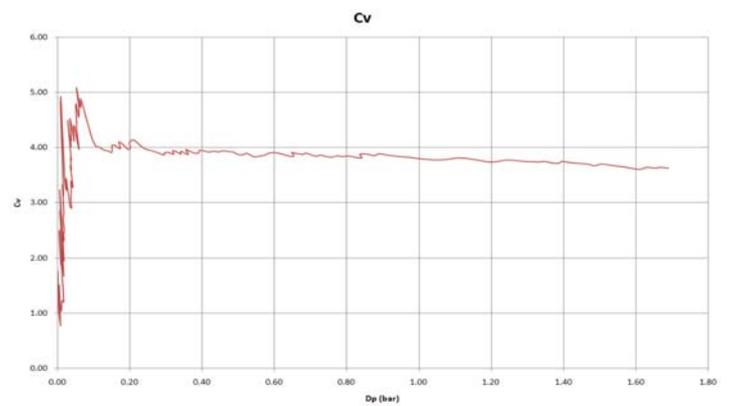
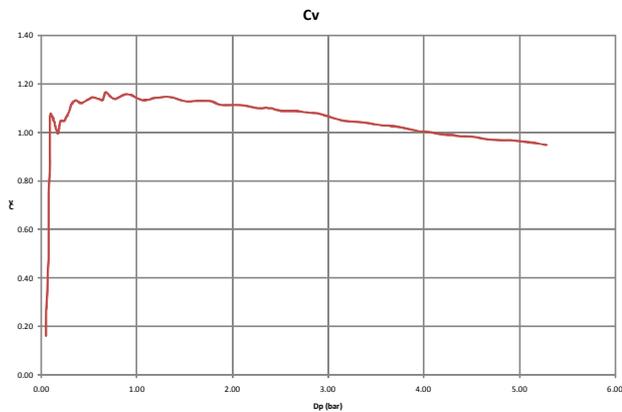
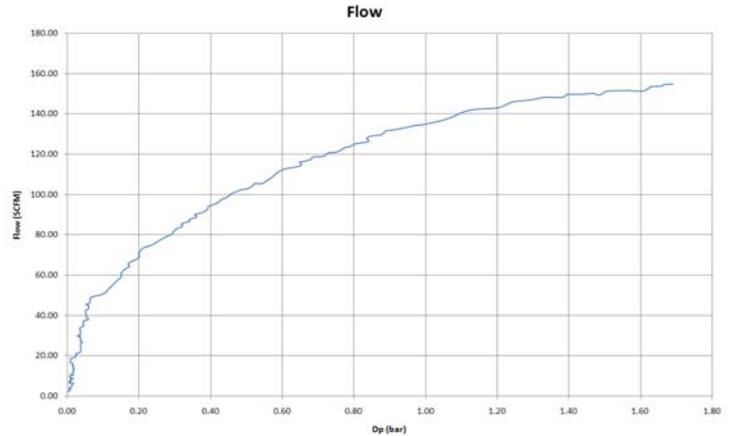
PCV	Pneumatic service check valve			Model Code	
04F	1/4" NPT	female		Inlet Connection	
04M	1/4" NPT	male			
06F	3/8" NPT	female			
06M	3/8" NPT	male			
08F	1/2" NPT	female			
08M	1/2" NPT	male			
12F	3/4" NPT	female			
12M	3/4" NPT	male			
16F	1" NPT	female			
16M	1" NPT	male			
04F	1/4" NPT	female			Outlet Connection
04M	1/4" NPT	male			
06F	3/8" NPT	female			
06M	3/8" NPT	male			
08F	1/2" NPT	female			
08M	1/2" NPT	male			
12F	3/4" NPT	female			
12M	3/4" NPT	male			
16F	1" NPT	female			
16M	1" NPT	male			
13	13 bar (190 psi)		Working Pressure		
023	0.023 bar (1/3 psi) nominal		Cracking Pressure		
S	Nitrile	(-30°C to +130°C)	O-ring Material		
V	Viton (std)	(-20°C to +180°C)			
SA	Low Temp Nitrile	(-40°C to +130°C)			
PCV - 04F - 04M - 13 - 023 - V				Ordering Example	

FLOW PERFORMANCE:-

1/4" Pneumatic Check Valve



1/2" Pneumatic Check Valve



For 3/4" & 1" data contact Bifold Fluidpower Ltd

Pilot Operated Check Valves (hydraulic) - Type SCV & DCV

INTRODUCTION:-

Bifold Fluidpower pilot operated check valves feature compact cartridge ball check valves in a 316S11 stainless steel body. The valves are used to hydraulically lock actuators until pressure is applied, and are available as single or dual pilot operated types.

Check valve cartridge seats are PEEK with the ball and spring stainless steel. The valve is ruggedly constructed, and affords a very low pressure drop. The standard cracking pressure is 5 psi. Flow ratings are either 68 or 190 litres per minute. Valve cartridges are easily replaced without disturbing hydraulic tubing.

Dual pilot operated valves have an internally piloted piston eliminating external pilot tubing.

OPERATING PARAMETERS:-

Working Pressure :-

345 bar (5000 psi)
207 bar (3000 psi)

Operating Media:-

Mineral oil, water glycol mixtures, some chemicals.

	Connections	Flow Rating	Pressure Drop
Type 4018:-	1/2 NPT	68 litres/min (15 igpm)	4.5 bar (65 psi) @ flow rating
Type 4035:-	3/4 NPT	190 litres/min (29 igpm)	1.2 bar (17.5 psi) @ flow rating

Recommended Filtration:-
10 micron

Working Temperature:-
Refer to elastomer options, valve selection chart below

INSTALLATION:-

Overall Dimensions(mm):

Type SCV4018	: 122 L x 63.5 W x 38.1 H
Type DCV4018	: 172 L x 63.5 W x 38.1 H
Type SCV4035	: 166.5 L x 63.5 W x 63.5 H
Type DCV4035	: 236 L x 63.5 W x 63.5 H

Weight:

Type SCV4018	: 1.9 kg
Type DCV4018	: 3.1 kg
Type SCV4035	: 4.6 kg
Type DCV4035	: 7.5 kg

Fixings:

Type 4018	: Three M6 clearance holes
Type 4035	: Three M8 clearance holes

Valves can be mounted in any attitude. Systems should be flushed clean to ISO 4406 Class 18/15 or better. Weights detailed in this catalogue are approximate only

SELECTION CHART:

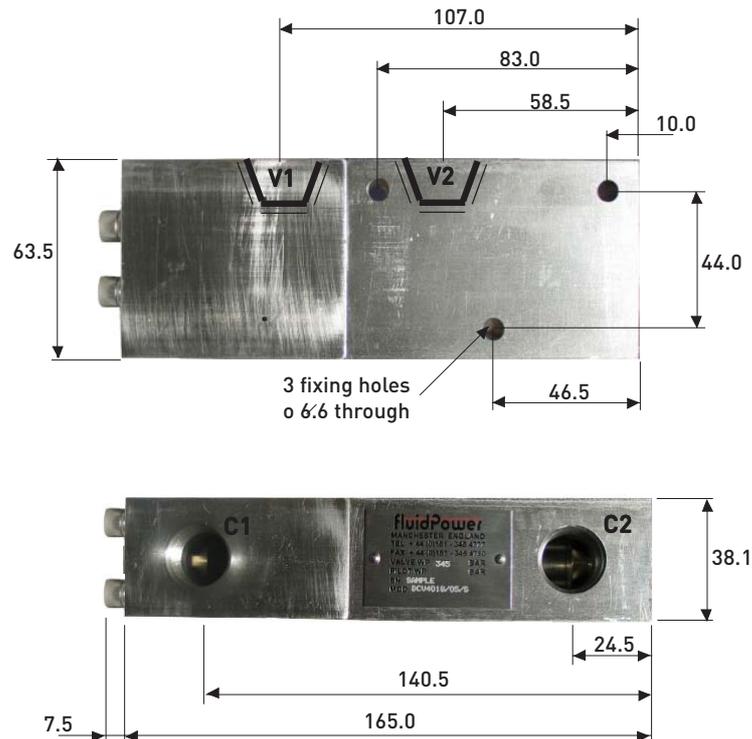
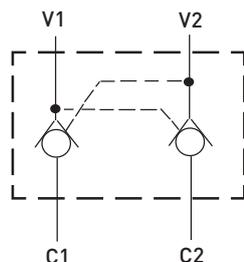
SCV	Single Check Valve	pilot to open	Model Code	
SCV (C)	Single Check Valve	pilot to close		
DCV	Dual Check Valve	internal pilot to open		
	4018	68 lpm	Flow Rating	
	4035	190 lpm		
		03	Working Pressure	
		05		(4035 only) (4018 only)
		S	Seal Material	
		V		Nitrile (-30°C to +130°C)
		A		Viton (-20°C to +180°C) Fluorosilicone (-50°C to +40°C)
SCV	4018	/ 05	/ S	Example Code

Standard Test Fluid: Marston Bentley HW540.

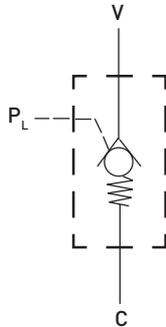
Example Valve:-

DCV4018/05/S

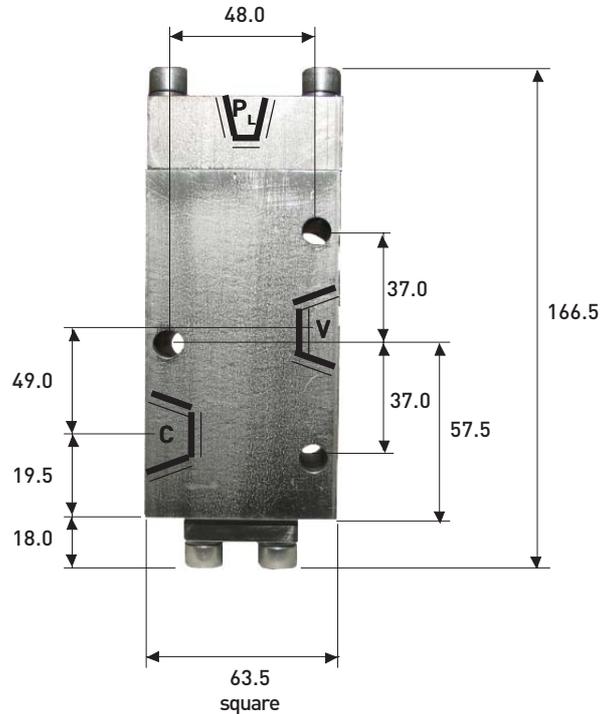
Schematic



Example Valve:- SCV4035/03/S



Connections:-
 C = Cylinder 3/4" NPT
 V = Valve 3/4" NPT
 P_L = Pilot 1/4" NPT



Excess Flow Check Valves (hydraulic) - Type EFCV

INTRODUCTION:-

Bifold Fluidpower's Excess Flow Check Valves provide an effective shut-off in a system pressure supply line when the flow rate exceeds a pre-determined flow setting. Typically the valves are installed where actuator control lines and associated valves are vulnerable to damage to prevent the total loss of the hydraulic system control fluid in the event of a line fracture or high component leakage. These particular valves are designed to shut-off at very low flow rates, and are very restrictive in a reverse flow condition. The valves should be installed either upstream of the system directional control valve or with a free flow return check valve in parallel if they are installed in the actuator control line, to ensure adequate actuator operating times. Therefore the direction of flow should always be P1 to P2.

The shut-off flow rate is internally adjustable, and can be accurately set.

Valve types 2002 and 2005 are in-line mounting; types 2012 and 2015 are panel mounting and incorporate an integral by-pass valve operable at the panel front. Valves can also be supplied with internal orifices allowing a continuous by-pass bleed for automatic resetting after shut-off during system start-up conditions.

OPERATING PARAMETERS:-

Working Pressure :-

690 bar (10000psi) max hydraulic service
 414 bar (6000psi) max gas service

Operating Media:-

Mineral oil, water glycol mixtures, some chemicals.

Working Temperature:-

Refer to elastomer options

Connections:-

1/4 NPT

Recommended Filtration:-

10 microns (NAS 1638 Class 9 system cleanliness)

Shut-off Flow Ranges:-

0.4 to 2.0 litres per minute
 2.0 to 5.0 litres per minute

INSTALLATION:-

Overall Dimension:-

without by-pass valve 77.5 x 38 x 38 mm
 with by-pass valve 77.5 x 38 x 91 mm

Panel Mounting Hole:-

by pass valve type only
 21.0 mm diameter

Weight:-

1.0 Kg

SELECTION CHART:

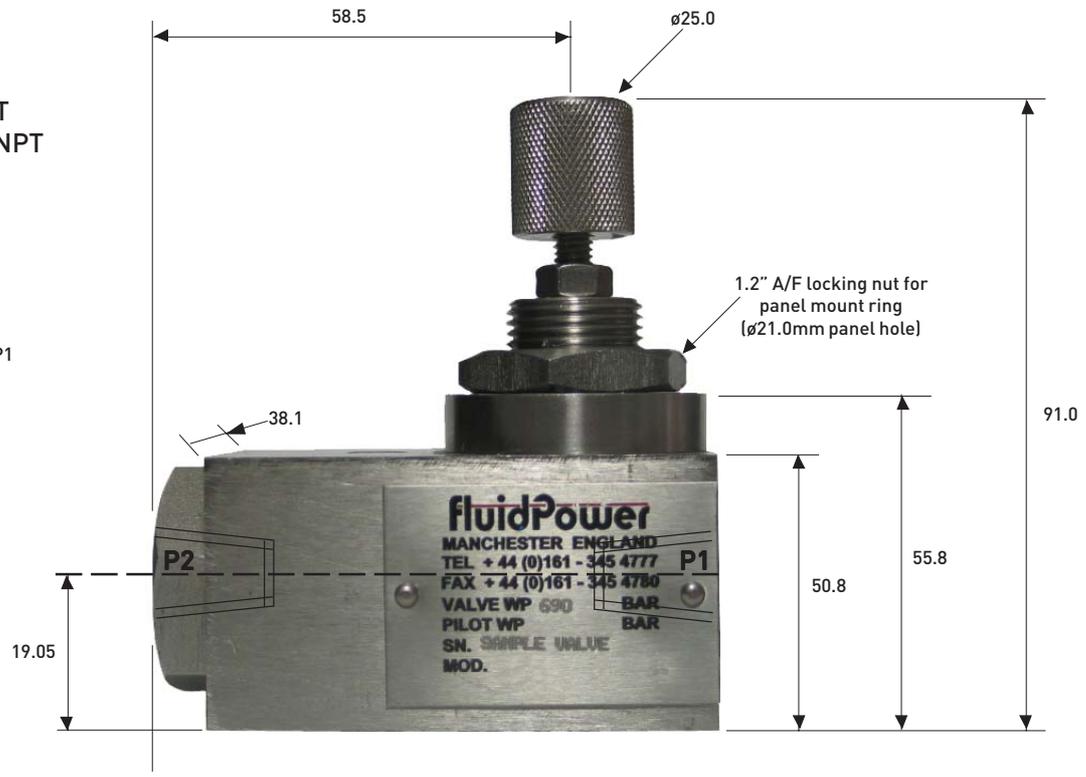
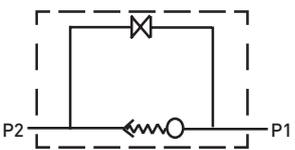
EFCV2 Excess Flow Check Valve		Model Code
0 Hydraulic Service 4 Gas Service		Media
0 without by-pass valve 1 with by-pass valve		
2 0.4 - 2 lpm 5 2.0 - 5.0 lpm		Shut Off Flow Ranges
00 no reset orifice 10 0.010" orifice 15 0.015" orifice 20 0.020" orifice 25 0.025" orifice 30 0.030" orifice		Orifice
06 414 bar gas service 10 690 bar hydraulic service		Working Pressure
S Nitrile (-30°C to +130°C) V Viton (-20°C to +180°C)		O-ring Material
EFCV2 0 1 2 / 00 / 10 / S		Example Code

Standard Test Fluid: Marston Bentley HW540.

Excess Flow Check Valve
EFCV2015/00/10/S

Connections

P1 = Inlet Port 1/4" NPT
P2 = Service Port 1/4" NPT



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