

Pneumatic + Hydraulic Accessory Valves

Flow Control Valves / Cylinder Plug Valves

upto 690 bar

Superior performance
throughout the full
operational range

Features:

- 316L Stainless steel
- Arctic Service option to -60°C
- NACE MR-01-75 option
- Flow control through 6 full turns



HYDRAULIC FLOW CONTROL

Reliability and innovation in directional control valves

MATERIALS OF CONSTRUCTION

All valve bodies:-	stainless steel 316L
Internal components:-	stainless steel 316L, CA104 Aluminium Bronze
Springs:-	stainless steel 302S26 or Inconel for H2S service
Seals:-	nitrile (standard). Alternative elastomers available for extreme conditions.

STANDARD NON SHUT-OFF ORIFICE SIZES:

1/4" (fine)	-	ø0.3 to 0.5 mm = 0.071mm ² to 0.192mm ² / 0.0001 in ² to 0.0003in ²
1/4" (std)	-	ø0.4 = 0.126mm ² / 0.0002in ²
3/8"	-	ø0.5 = 0.196mm ² / 0.0003in ²
1/2"	-	ø0.9 = 0.64mm ² / 0.0010in ²
3/4"	-	ø1.1 = 0.95mm ² / 0.0015in ²
1"	-	ø1.25 = 1.23mm ² / 0.0019in ²

TEMPERATURE RANGE:

See elastomer options

MEDIA:

Mineral oils, water based fluids, methanol, gases (others on request)

NEEDLE TYPE

SELECTION CHART

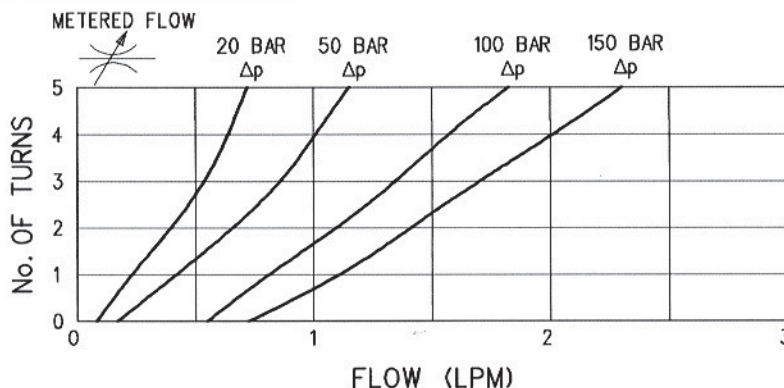
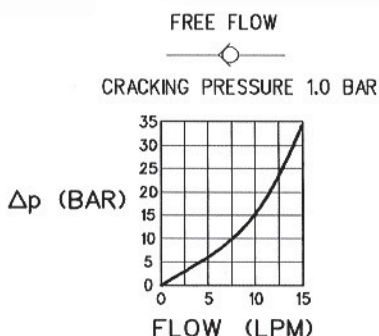
FCV		Model Code
3	Uni-directional	Configuration
4	Bi-directional	
0	non shut off	Metering
1	shut off	
0	fine metering (1/4 only)	Connections
1	standard metering	
2	coarse metering (1/2, 3/4 & 1 only)	
3	extra coarse metering (3/4 & 1 only)	
2	1/4" NPT	Maximum Working Pressure
3	3/8" NPT	
4	1/2" NPT	
6	3/4" NPT	
8	1" NPT	
04	270 bar (3/4, 1)	
05	345 bar (1/4, 3/8 1/2)	
10	690 bar (1/4 only)	Gas Service (14 bar minimum)
02	172 bar (3/4, 1)	
03	207 bar (1/4, 3/8, 1/2)	
06	414 bar (1/4 only)	
S	nitrile (standard) -30°C to +130°C	O-Ring Material
V	viton -20°C to +180°C	
A	flourosilicone -50°C to +40°C	
K6	BSPP connections	Options
PM	panel mount	
SM	side mount	
GS	gas service (high pressure)	
H2S	NACE MR-01-75	
TP	tamperproof domed locknut	
FCV 3 0 1 4 / 05 / S - K6		Example Code

Standard hydraulic test fluid:- Marston Bentley HW540.

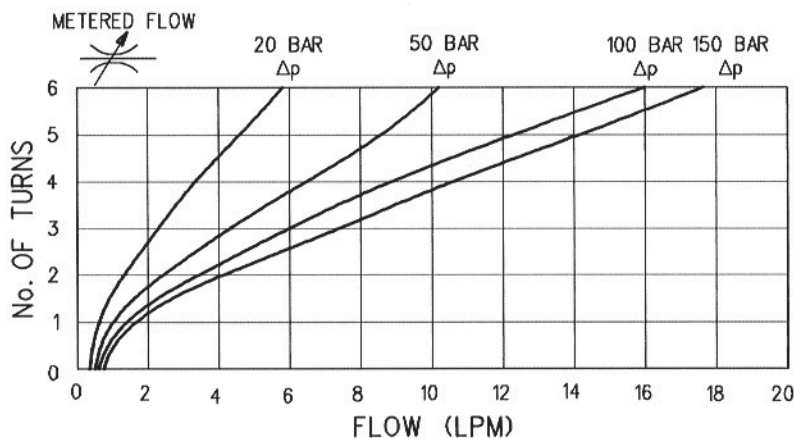
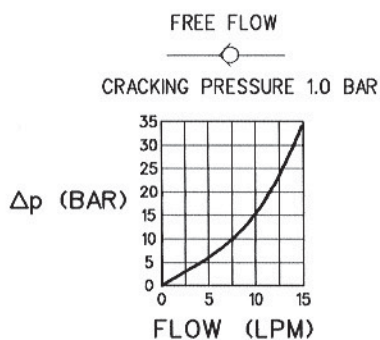
Valves for gas service tested with nitrogen and proof tested with Marston Bentley HW540

FLOW PERFORMANCE

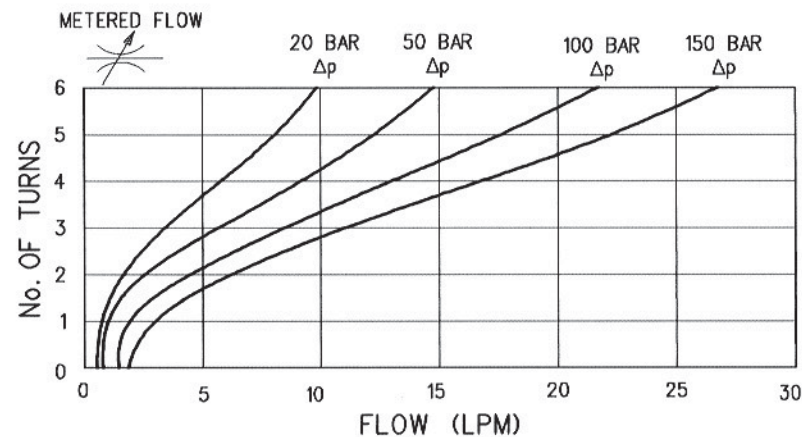
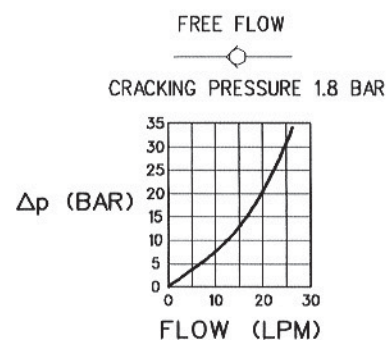
1/4" control valves (fine)



1/4" control valves (standard)

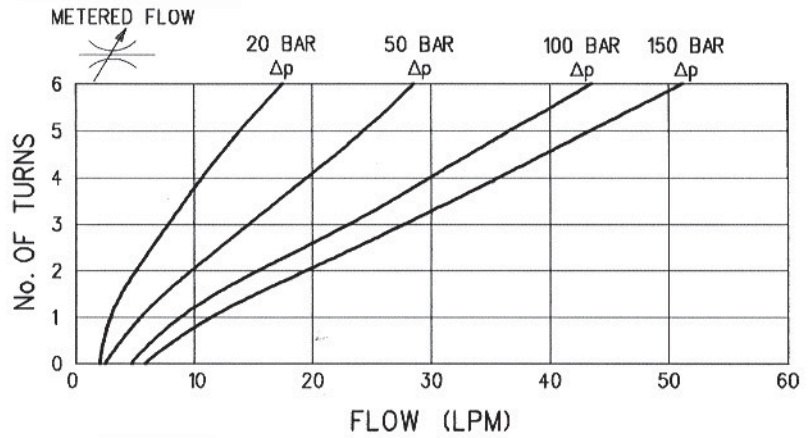
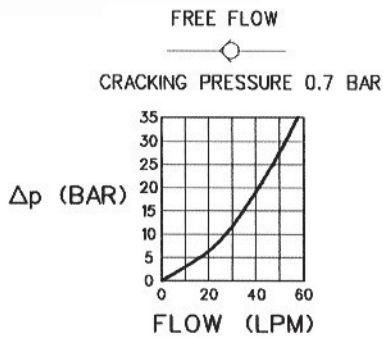


3/8" control valves (standard)

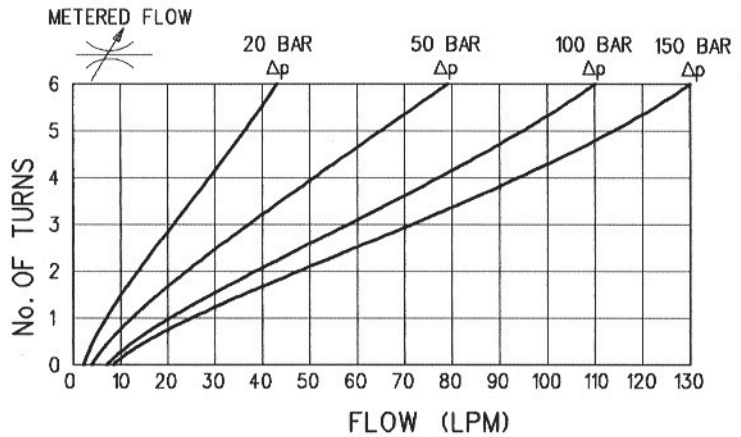
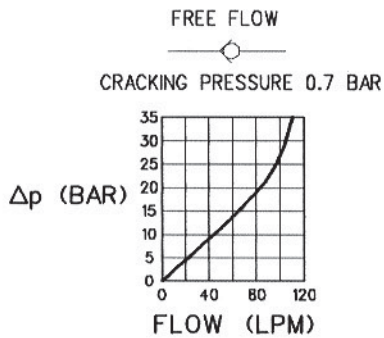


NOTES: Flow performance curves are provided as an aid to the correct selection of valve size and are only typical of a valve's performance. (Non- shut-off valves illustrated test fluid mineral oil @ 30cst).

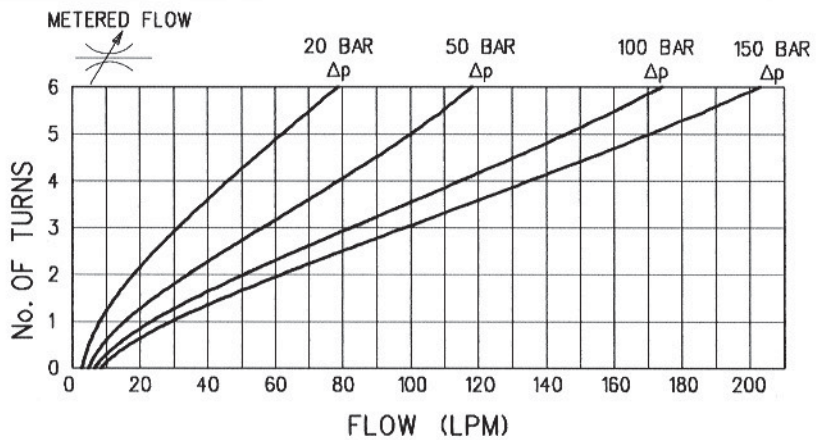
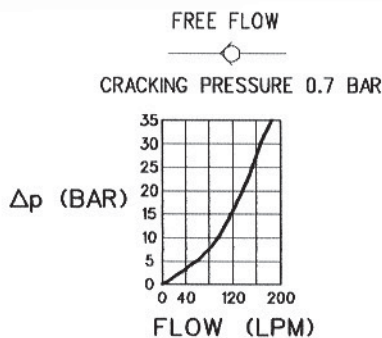
1/2" control valves (standard)



3/4" control valves (standard)



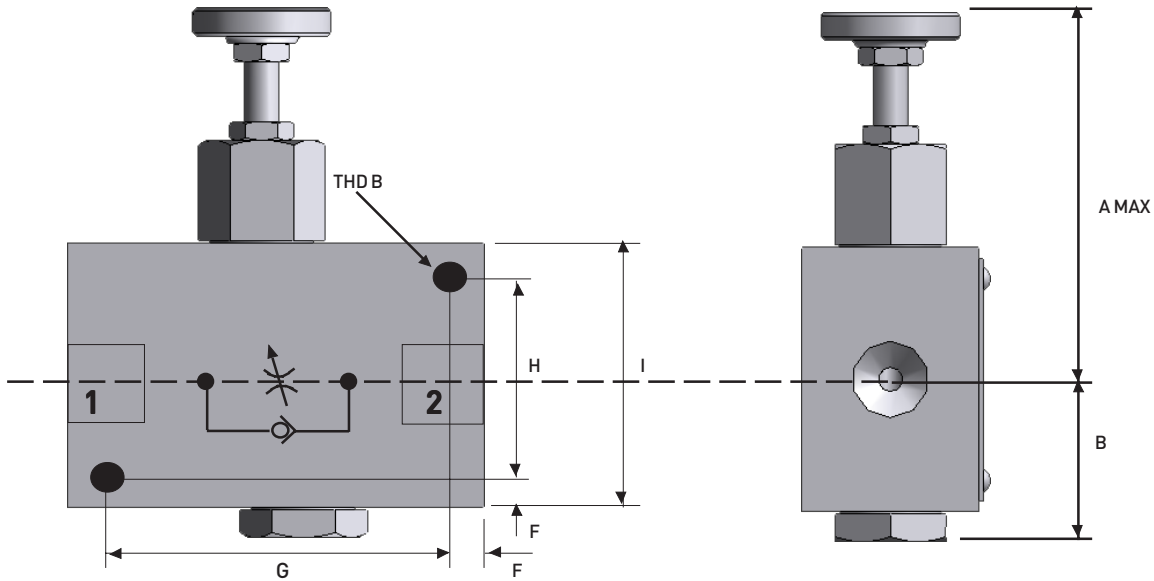
1" control valves (standard)



3000 SERIES

Fixing details

Side mount option



Panel mount option

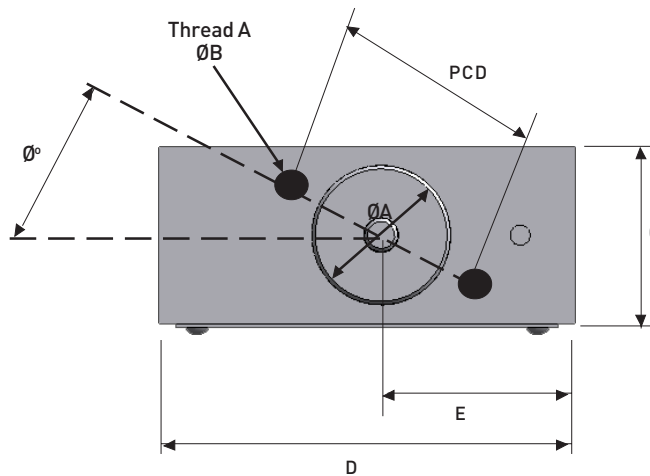


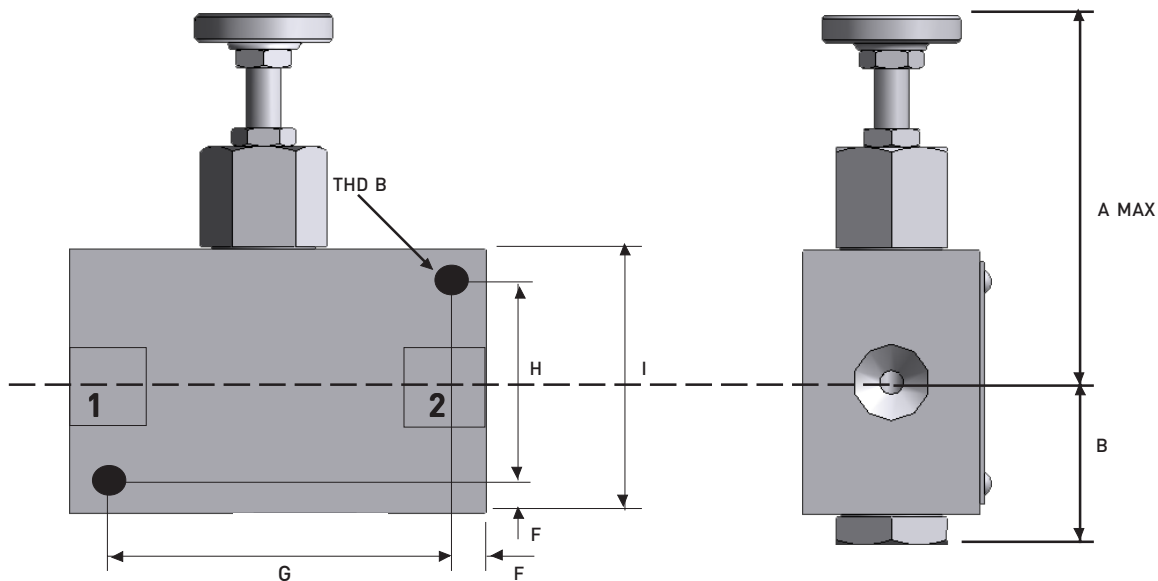
Table of dimensions

Valve Type	A	B	C	D	E	F	G	H	I	THD A	THD B	Panel Cut-Out				PORTS	WEIGHT
												ØA	ØB	Ø°	PCD		
3x2	52.5	24	25.4	60	32	6	48	26	38.0	M5x7 DP	M5x7 DP	20.5	5.5	30°	30.0	1/4	0.5 KG
3x3	64.5	27	25.4	70	40	6	58	32.5	44.8	M5x7 DP	M5x7 DP	24.5	5.5	25°	35.0	3/8	0.7 KG
3x4	67	34.5	31.75	88	49	7	74	36.8	50.8	M5x7 DP	M5x7 DP	31.0	5.5	30°	42.0	1/2	1.2 KG
3x6	91	50	38.0	97	56	TBA	TBA	TBA	70.0	M5x7 DP	TBA	32.0	5.5	30°	42.0	3/4	2.1 KG
3x8	100	62	44.5	120	69	TBA	TBA	TBA	76.0	TBA	TBA	TBA	TBA	TBA	TBA	1	3.4 KG

4000 SERIES

Fixing details

Side mount option



Panel mount option

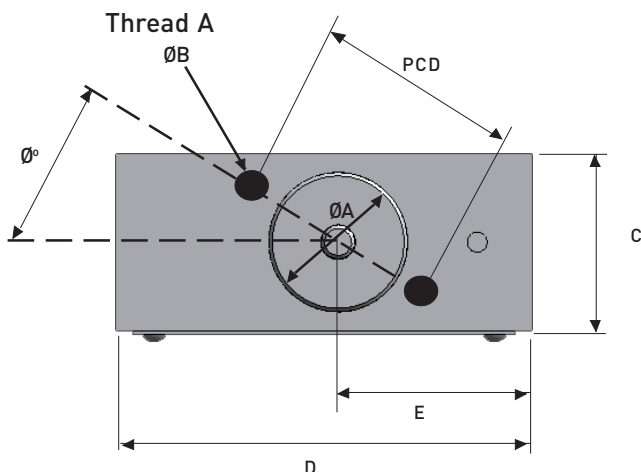


Table of dimensions

Valve Type	Table of dimensions										Panel Cut-Out				PORTS	WEIGHT	
	A	B	C	D	E	F	G	H	I	THD A	THD B	ØA	ØB	Ø°			PCD
4xx2	52.5	19	25.4	60	30	6	48	26	38	M5x7 DP	M5x7 DP	20.5	5.5	30°	30.0	1/4	0.45 KG
4xx3	61.5	19	25.4	63.5	31.8	5	53.5	28.1	38	M5x7 DP	M5x7 DP	24.5	5.5	25°	35.0	3/8	0.55 KG
4xx4	64	22.25	31.75	78	39	6	66.0	32.5	44.5	M5x7 DP	M5x7 DP	31.0	5.5	30°	42.0	1/2	0.95 KG
4xx6	81.5	25.4	38.0	90	45	TBA	TBA	TBA	50.8	TBA	TBA	TBA	TBA	TBA	TBA	3/4	1.45 KG
4xx8	94.0	31.75	44.5	110	55	6	98.0	51.5	63.5	TBA	M6x10 DP	TBA	TBA	TBA	TBA	1	2.65 KG

CYLINDER PLUG TYPE

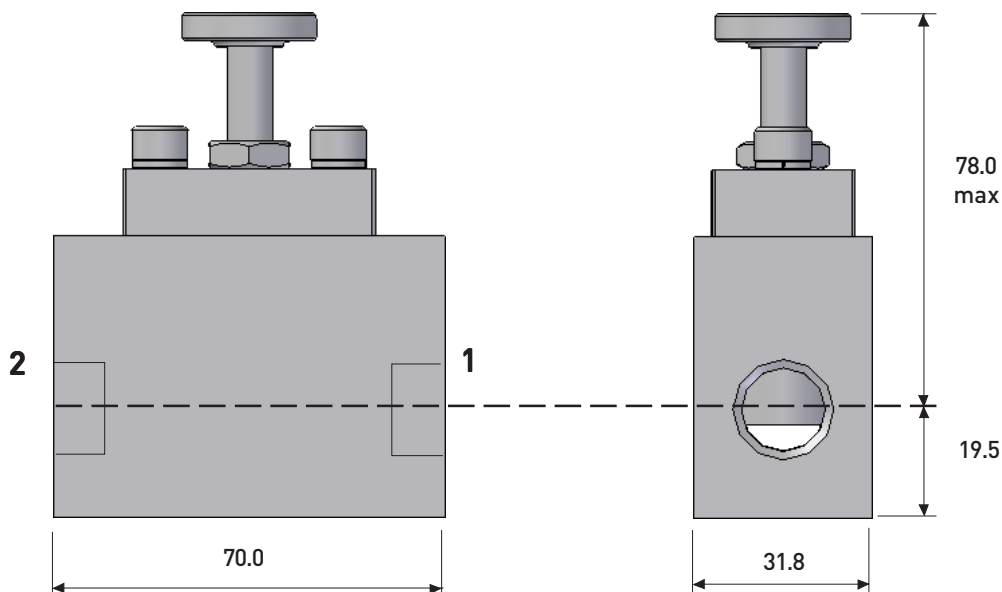
Reliability and innovation in directional control valves

SELECTION CHART

FCV							Model Code
5 Bi-directional							Configuration
0 non shut off							Metering
1 standard metering							Connections
2 1/4" NPT 3 3/8" NPT 4 1/2" NPT 6 3/4" NPT 8 1" NPT							Maximum Working Pressure
04 270 bar (3/4, 1) 05 345 bar (1/4, 3/8, 1/2) 10 690 bar (1/4 only)							O-Ring Material
Hydraulic Service							
S nitrile (standard) -30°C to +130°C V viton -20°C to +180°C A flourosilicone -50°C to +40°C							Options
K6 BSPP connections GS gas service (high pressure) H2S NACE MR-01-75 TP tamperproof domed locknut							
FCV 5 0 1 4 / 05 / S - K6							Example Code

Standard test fluid:- Marston Bentley HW540

FIXING DETAILS



Example Model:- FCV5014/05/S

PNEUMATIC FLOW CONTROLS NEEDLE VALVES, CYLINDER PLUG VALVES



Reliability and innovation in directional control valves

TECHNICAL DATA

OPERATING MEDIA

- Air, sweet and sour gas, hydraulic oil

MECHANICAL CONSTRUCTION

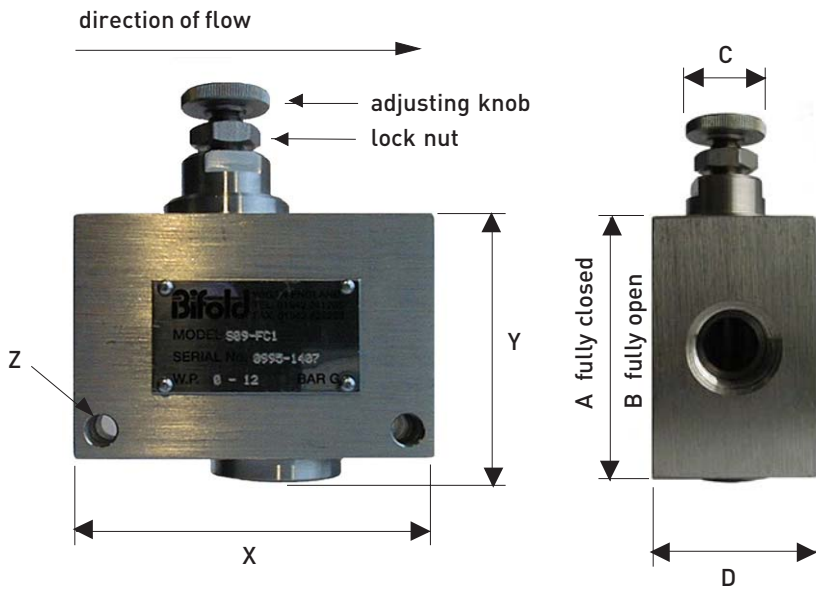
- Body:- stainless steel 316L
- Fasteners:- Metric A4 18/10 316 grade stainless steel
- Seals:- Viton (standard). Alternative elastomers available for extreme conditions
- Springs:- stainless steel 316 S42
- Hand buttons stainless steel 316L

OPERATING PRESSURE

- 0-12 bar standard

TEMPERATURE RANGE:

See selection chart model code



Details	1/4"	3/8" & 1/2"	3/4"
• Weight	0.207Kg	0.49Kg	
• X	51	74	85
• Y	42	56	
• Z		6.3 dia	
• A	78	85	113
• B	71	90	118
• C	20 dia	20 dia	20 dia
• D	25.4	32	41.3

NEEDLE TYPE SELECTION CHART:

S	standard service	(-20°C to +180°C)	Model Code
SE	standard service (engineered)	(-20°C to +180°C) - 1/4" NPT ONLY	
AS	arctic service	(-60°C to +40°C)	
06	1/4" NPT	Port Sizes	
09	3/8" NPT		
12	1/2" NPT		
19	3/4" NPT (FC1 only)		
25	1" NPT (FC1 only)		
FC1	Flow Control	- uni-directional	Configuration
NV	Needle Valve	- bi-directional	
K6	BSPB ported	Options	
FM	fine metering (FC1 only)		
K32	tamper proof		
L117	constant bleed		
S 12 - FC1 - K6 - L117			Ordering Example

CYLINDER TYPE SELECTION CHART:

S	standard service	(-20°C to +180°C)	Model Code		
AS	arctic service	(-60°C to +40°C)			
	06	1/4" NPT	Port Sizes		
	09	3/8" NPT			
	12	1/2" NPT			
	19	3/4" NPT			
	25	1" NPT			
	CPV	Cylinder plug valve - bi-directional	Configuration		
	K6	BSP ported	Options		
	K32	Anti tamper cap			
	xx	Revision Number	Revision		
S	06	- CPV	- K6	- 01	Ordering Example

Working Pressures

CV - fully open

Flow Control Valves

1/4" NPT	1 - 12 bar g	0.5
3/8" NPT	0 - 12 bar g	0.9
1/2" NPT	0 - 12 bar g	1.1
3/4" NPT	0 - 12 bar g	2.0
1" NPT	0 - 12 bar g	2.2

Needle Valves

1/4" NPT	1 - 12 bar g	0.6
3/8" NPT	0 - 12 bar g	0.9
1/2" NPT	0 - 12 bar g	1.2

Cylinder Plug Valves

1/4" NPT	1 - 12 bar g	2.1
3/8" NPT	0 - 12 bar g	3.6
1/2" NPT	0 - 12 bar g	5.1
3/4" NPT	0 - 12 bar g	9.8
1" NPT	0 - 12 bar g	11.2

PREFERRED RANGE:

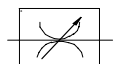


SE06-FC1

1/4" NPT, Flow Control Valve, 1 - 12 bar, C.v. 0.5

S12-FC1

1/2" NPT, Flow Control Valve, 0 - 12 bar, C.v. 1.1

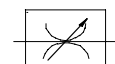


SE06-NV

1/4" NPT, Needle Valve, 1 - 12 bar, C.v. 0.6

S12-NV

1/2" NPT, Needle Valve, 0 - 12 bar, C.v. 1.1

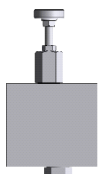


S06-CPV-01

1/4" NPT, Cylinder Plug Valve, 1 - 12 bar, C.v. 2.1

S12-CPV-01

1/2" NPT, Cylinder Plug Valve, 0 - 12 bar, C.v. 5.1



FCV3012/05/S

1/4" NPT, 345 bar, standard metering

FCV3014/05/S

1/2" NPT, 345 bar, standard metering

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All Bifold Fluidpower products are manufactured to a most stringent QA programme. Every care is taken at all stages of manufacture to ensure that every product will give optimum performance and reliability. We are recognised to EN ISO 9001:2000 and First Point assessed (cert no. 10040969). Functional test certificate, letter of conformity and copies of original mill certificates, providing total traceability are available on request, to BSEN 10204 3.1.B where available.

The manufacturer reserves the right to make changes to the specifications and design etc., without prior notice

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