

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

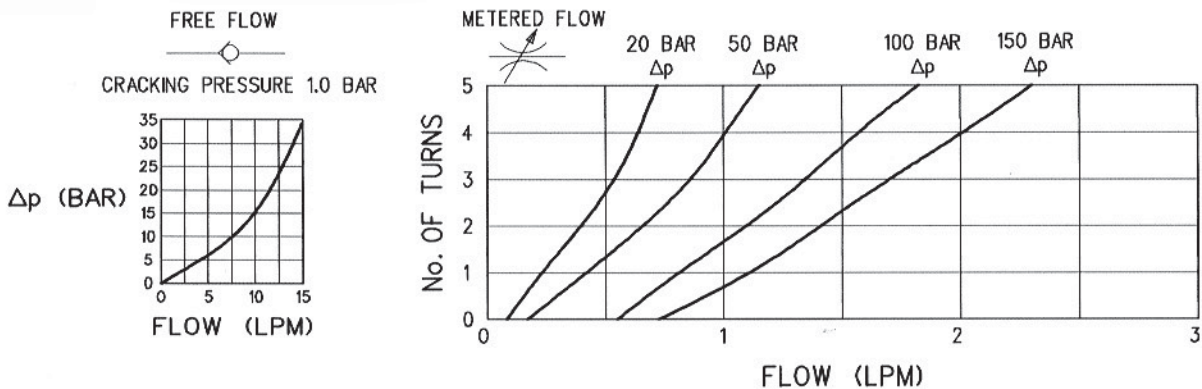
FCV										Model Code		
	3 4	Uni-directional									Configuration	
		Bi-directional										
		0 1	non shut off									
			shut off									
		0 1 2 3	fine metering (1/4 only)							Metering		
			standard metering									
		2 3	coarse metering (1/2, 3/4 & 1 only)									
			extra coarse metering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

Standard hydraulic test fluid:- Marston Bentley HW540.

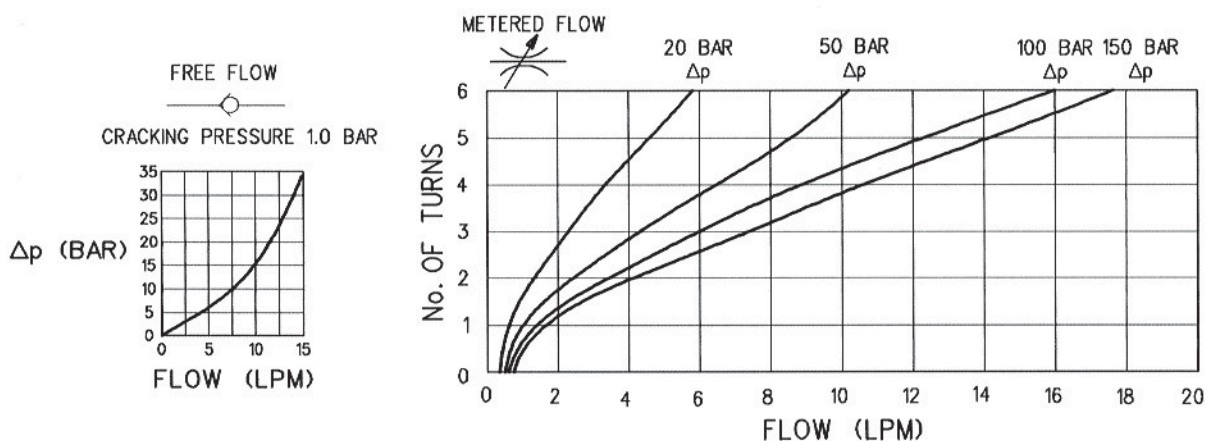
Valves for gas service tested with nitrogen and proof tested with Marston Bentley HW540

FLOW PERFORMANCE

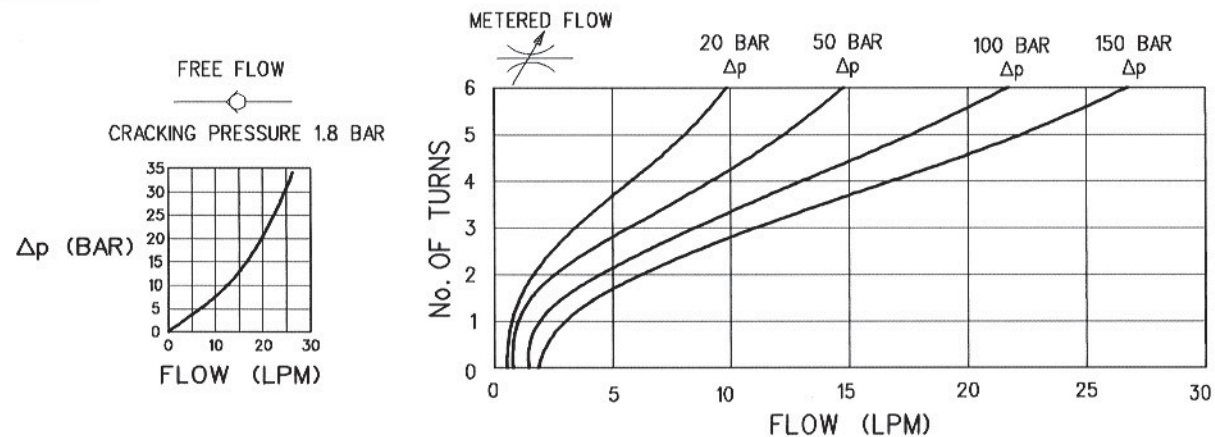
1/4" control valves (fine)



1/4" control valves (standard)

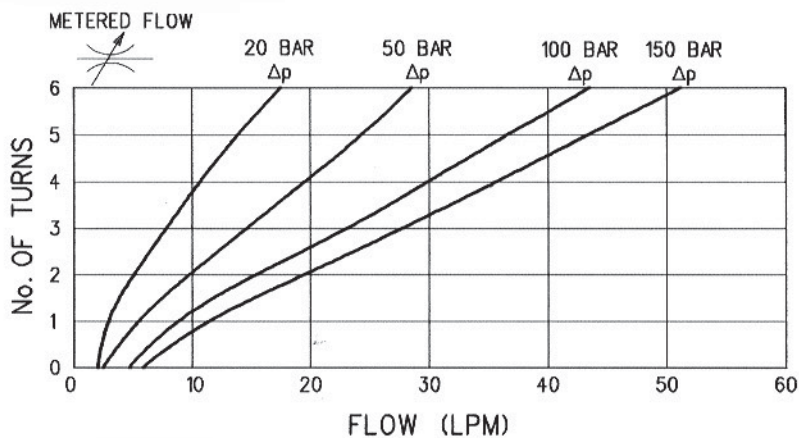
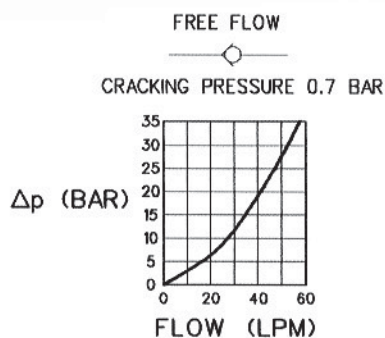


3/8" control valves (standard)

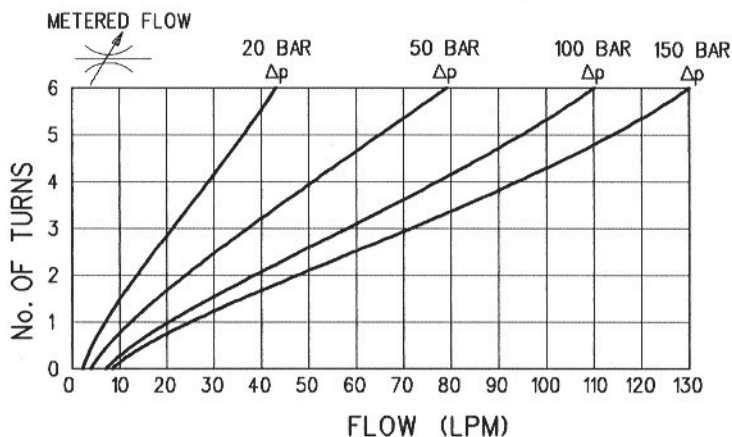
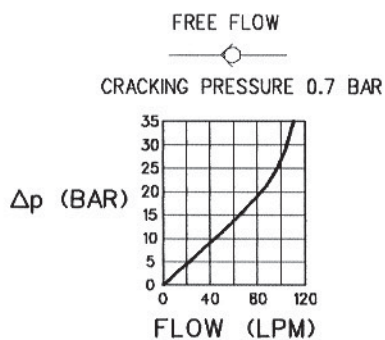


NOTES: Flow performance curves are provided as an aid to the correct selection of valve size and are only typical of a valve's performance. (Non- shut-off valves illustrated test fluid mineral oil @ 30cst).

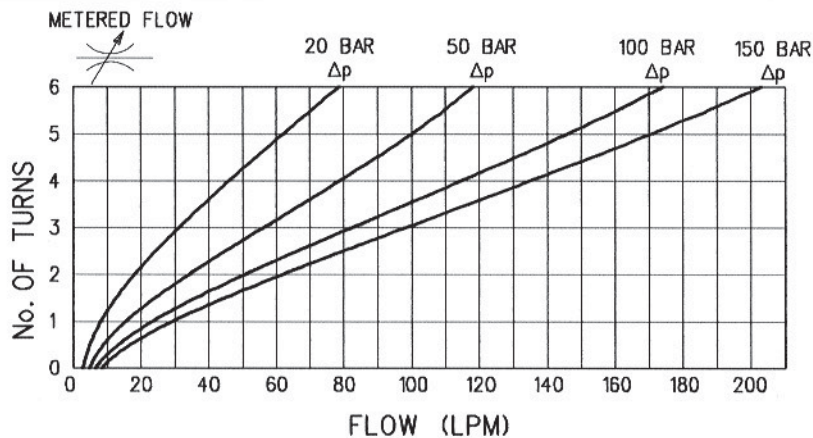
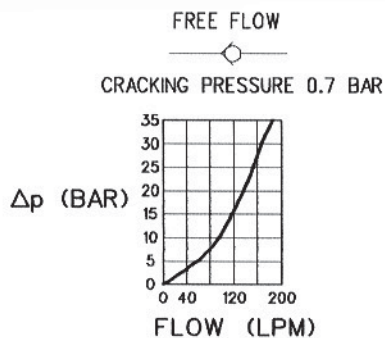
1/2" control valves (standard)



3/4" control valves (standard)



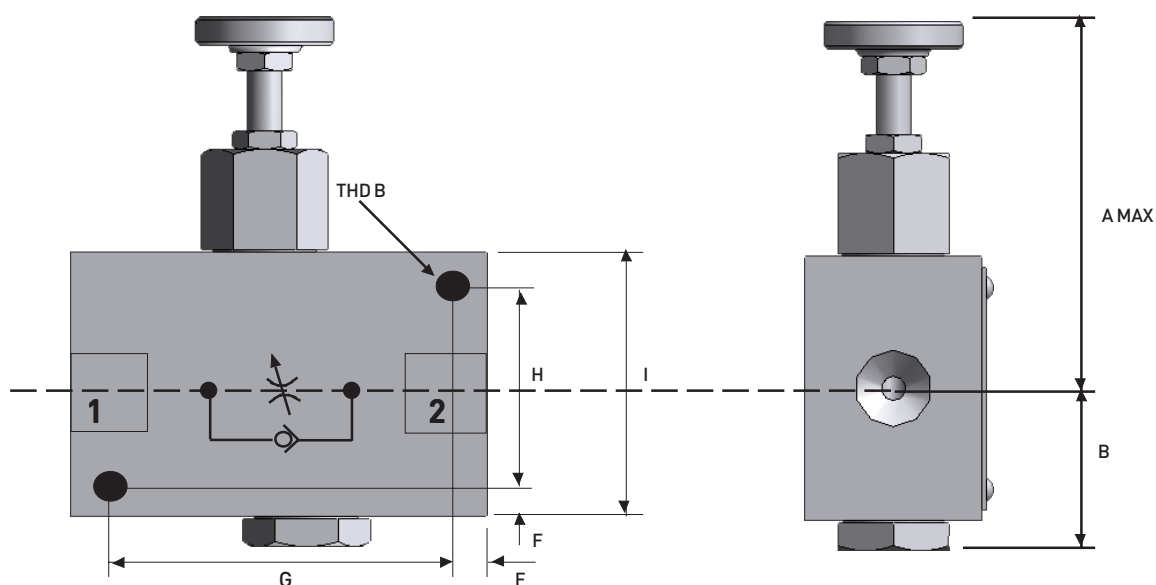
1" control valves (standard)



3000 SERIES

Fixing details

Side mount option



Panel mount option

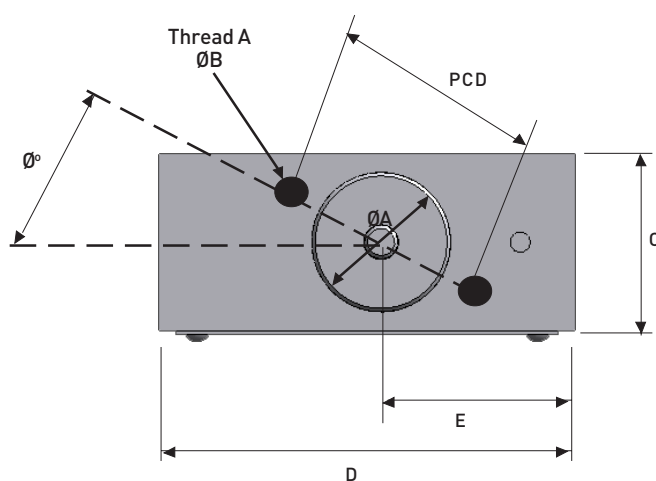
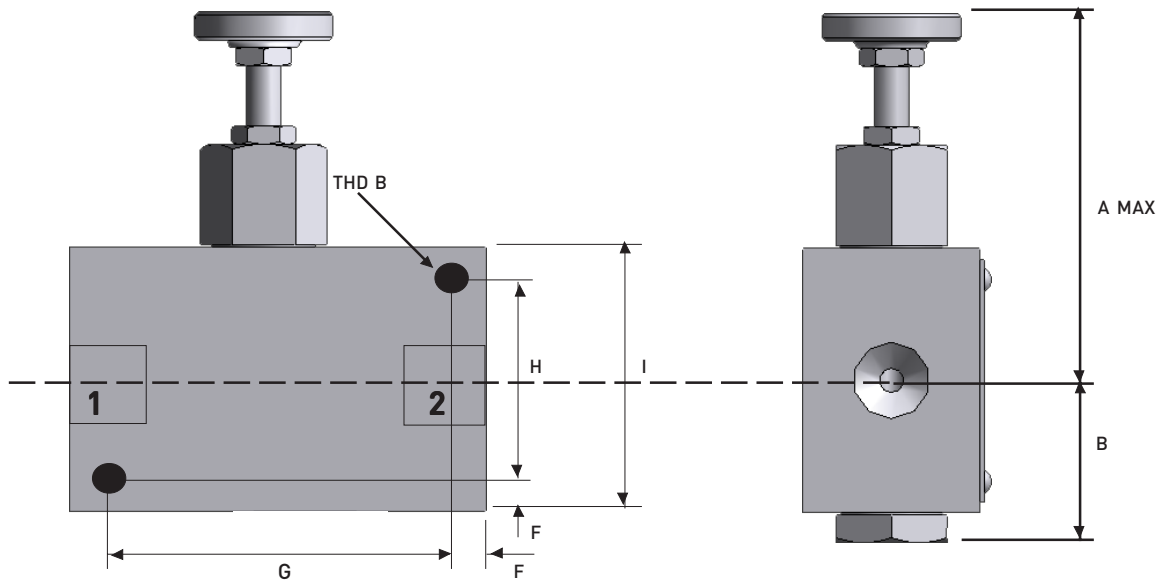


Table of dimensions												Panel Cut-Out				PORTS	WEIGHT
Valve Type	A	B	C	D	E	F	G	H	I	THD A	THD B	ØA	ØB	Ø°	PCD		
3xx2	52.5	24	25.4	60	32	6	48	26	38.0	M5x7 DP	M5x7 DP	20.5	5.5	30°	30.0	1/4	0.5 KG
3xx3	64.5	27	25.4	70	40	6	58	32.5	44.8	M5x7 DP	M5x7 DP	24.5	5.5	25°	35.0	3/8	0.7 KG
3xx4	67	34.5	31.75	88	49	7	74	36.8	50.8	M5x7 DP	M5x7 DP	31.0	5.5	30°	42.0	1/2	1.2 KG
3xx6	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
3xx8	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

Reliability and innovation in directional control valves



Panel mount option

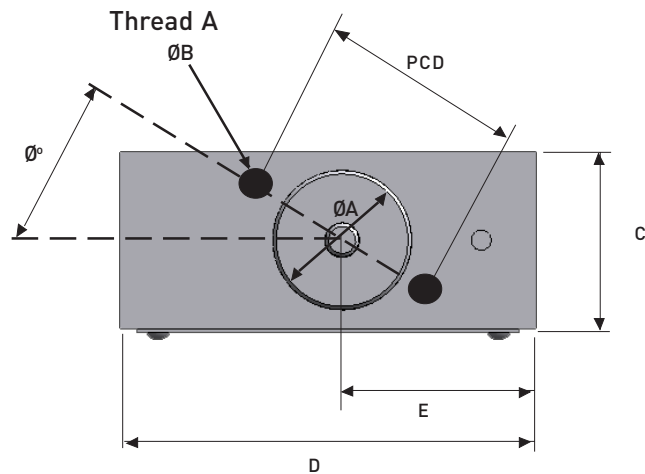


Table of dimensions												Panel Cut-Out				PORTS	WEIGHT
Valve Type	A	B	C	D	E	F	G	H	I	THD A	THD B	ØA	ØB	Ø°	PCD		
4xx2	52.5	19	25.4	60	30	6	48	26	38	M5x7 DP	M5x7 DP	20.5	5.5	30°	30.0	1/4	0.45 KG
4xx3	61.5	19	25.4	63.5	31.8	5	53.5	28.1	38	M5x7 DP	M5x7 DP	24.5	5.5	25°	35.0	3/8	0.55 KG
4xx4	64	22.25	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

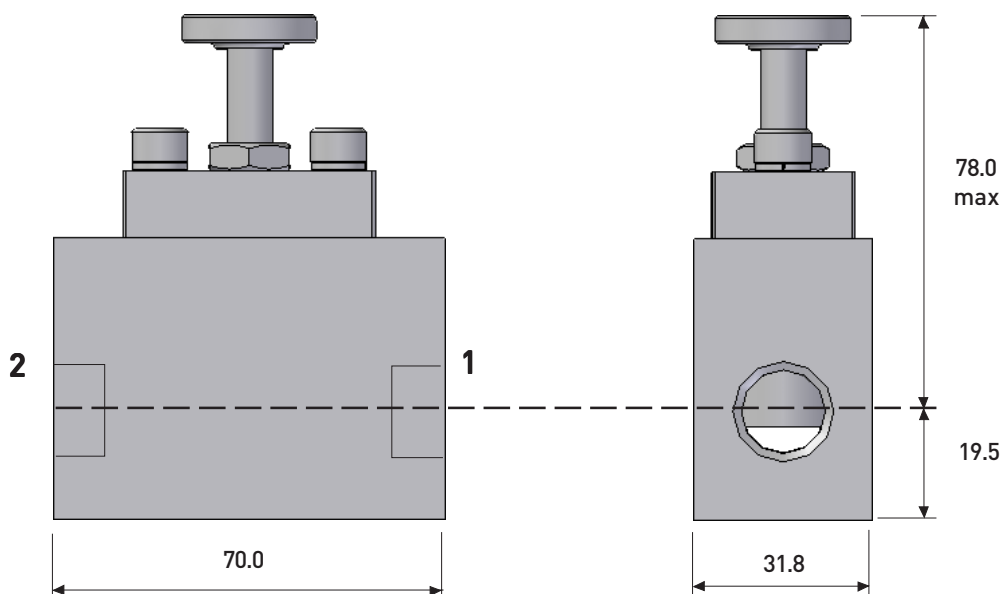
Reliability and innovation in directional control valves

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
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

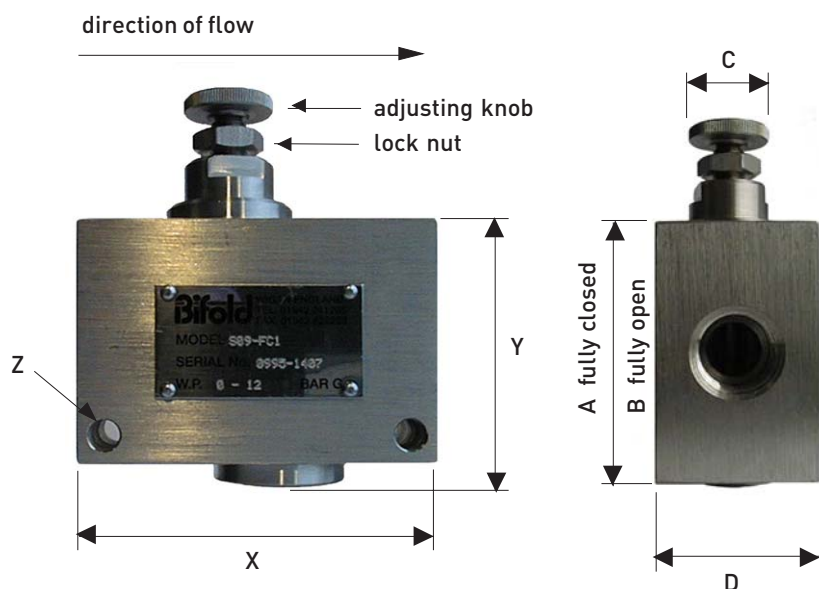
- Body:- stainless steel 316L
- Fasteners:- Metric A4 18/10 316 grade stainless steel
- Seals:- Viton (standard). Alternative elastomers available for extreme conditions
- Springs:- stainless steel 316 S42
- Hand buttons stainless steel 316L

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:

SEAS	standard service		(-20°C to +180°C)	Model Code				
	standard service (engineered)		(-20°C to +180°C) - 1/4" NPT ONLY					
	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 Valve	- bi-directional				
			K6	BSPP 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	AS	standard service arctic service	(-20°C to +180°C) (-60°C to +40°C)	Model Code
	06 09 12 19 25	1/4" NPT 3/8" NPT 1/2" NPT 3/4" NPT 1" NPT		Port Sizes
		CPV	Cylinder plug valve - bi-directional	Configuration
			K6 K32	Options
			xx	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:

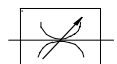


SE06-FC1

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

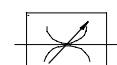


SE06-NV

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

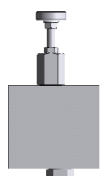


S06-CPV-01

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

Quality Assurance

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

Accuracy of information

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