

Interface Valve

Model FP50, 100, 200

up to 345 bar, 200 litres per minute



Superior performance
throughout the full
operational range

Features:

- 316L stainless steel
- Arctic service options to -50°C
- NACE MR-01-75 option



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TECHNICAL SPECIFICATIONS

MATERIALS OF CONSTRUCTION

All valve bodies:-	stainless steel 316L
Internal components:-	stainless steel 316L, CA104 Aluminium Bronze, Victrex PEEK
Fasteners:-	Metric A4 18/10 316 grade stainless steel.
Springs:-	Chrome Vanadium Steel SAE 6150, painted and wax coated.
Seals:-	Nitrile (standard). Alternative elastomers available for extreme conditions.

MEDIA:

Mineral oils, water glycol mixtures, sea water (filtered), some chemicals,
Air, natural gas, bottled gases (low pressure pilot stages only)

WORKING PRESSURE:

Up to 345 Bar (5,000PSI). Maximum working pressure varies according to valve model.
Refer to ordering code.

TEMPERATURE RANGE:

See elastomer options

SOUR GAS SERVICE (refer to ordering code).

All internal wetted and body metal materials conforming to NACE MR-01-75.

INSTALLATION:

Valves can be mounted in any attitude. Systems should be flushed clean to ISO 4406 Class 18/15 or better. Bifold Fluidpower FP50, FP100 & FP200 valves afford excellent sealing characteristics provided high standards of cleanliness are maintained. Where this cannot be assured we recommend the use of valves from the extensive range of Bifold Fluidpower Slide Valves which are more tolerant to fluid borne contaminants.

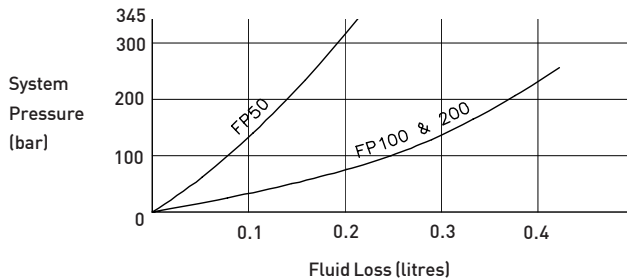
Weights detailed in this catalogue are approximate only

Selection Chart

FP50 FP100 FP200	50 lpm 100 lpm 200 lpm			Model Code and nominal Flow Rating	
		Pilot Pressure Range - bar		Standard operators (Other pressure ranges on request)	
		X	FP50		FP100/200
		0	30-60		32-70
		0A	45-85		43-115
		1	60-120		60-138
		1A	75-150		80-170
		2	120-250		110-235
		2A	145-290		130-280
		3	170-345		150-345
		3A	240-490		190-415
		4	300-610	235-520	
L1	Low pressure pilot operator			Connections	
SL1	Low pressure solenoid operator	4.5-8.5			
M	Manual lever operated	N/A			
M	Subbase mounting - 32, DV & SV valves. Subbases ordered separately. See page 6.			Configuration	
08	1/2 NPT ported subbase assembly		42 & 43 valves		
12	3/4 NPT ported subbase assembly (FP 100/200 only)				
		Max working pressure - bar		O-ring material	
		FP50	FP100/200		
32	3 - way, 2 - position	345	250		
42	4 - way, 2 - position		207		
43	4 - way, 3 - position				
DV	diverter valve				
SV	selector valve				
S	Nitrile (standard)	(-30°C to +130°C)		Options	
V	Viton	(-20°C to +180°C)			
A	Silicone/Fluorosilicone	(-50°C to +40°C)			
SA	Low temperature Nitrile	(-46°C to +130°C)			
H2S	NACE MR-01-75-Consult Bifold Fluidpower			Frangible bulb temp rating °C (+/- 3.5%)	
K6	BSPP Ported				
MS0	Manual screw down override (L1 operator)				
		57C 68C 79C 93C 141C 182C			
FP200 / H2 / 12 / 42 / S / H2S				Ordering Examples	
FP50 / FBVH1 / M / 32 / V / 68C					

Standard Test Fluids: Marston Bentley HW540

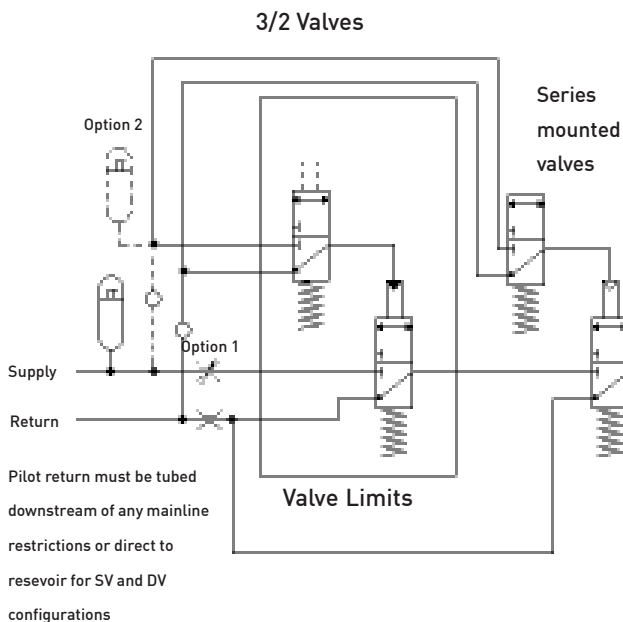
INSTALLATION REQUIREMENTS



Graph illustrating typical fluid loss on SL'x' operators

IMPORTANT NOTE: Bifold Fluidpower FP50, 100 & 200 Series valves have an open centre change over. This means that whilst the valve is changing position, fluid will flow from the pressure supply to the return/tank port. The volume of fluid lost will depend on the system pressure and valve response time. See curves for typical valve response.

TWO STAGE VALVE INSTALLATION



In some situations due to cross flow leakage the system pressure local to the valve may fall below the required minimum operating pressure. This will result in the mainstage valve stalling in the mid position. To eliminate the possibility of this problem occurring we offer three alternative solutions.

- OPTION 1.** Install a variable orifice in the supply line downstream of the pilot take-off. **Note:** This should be sized and set to maintain sufficient pilot pressure when the valve changes position.
- OPTION 2.** Install an accumulator and non-return valve. This option must be applied when an accumulated supply is not used. (Preferred option)
- OPTION 3.** Connect the pilot supply to a point in the system which is not influenced by the operation of the control valve.

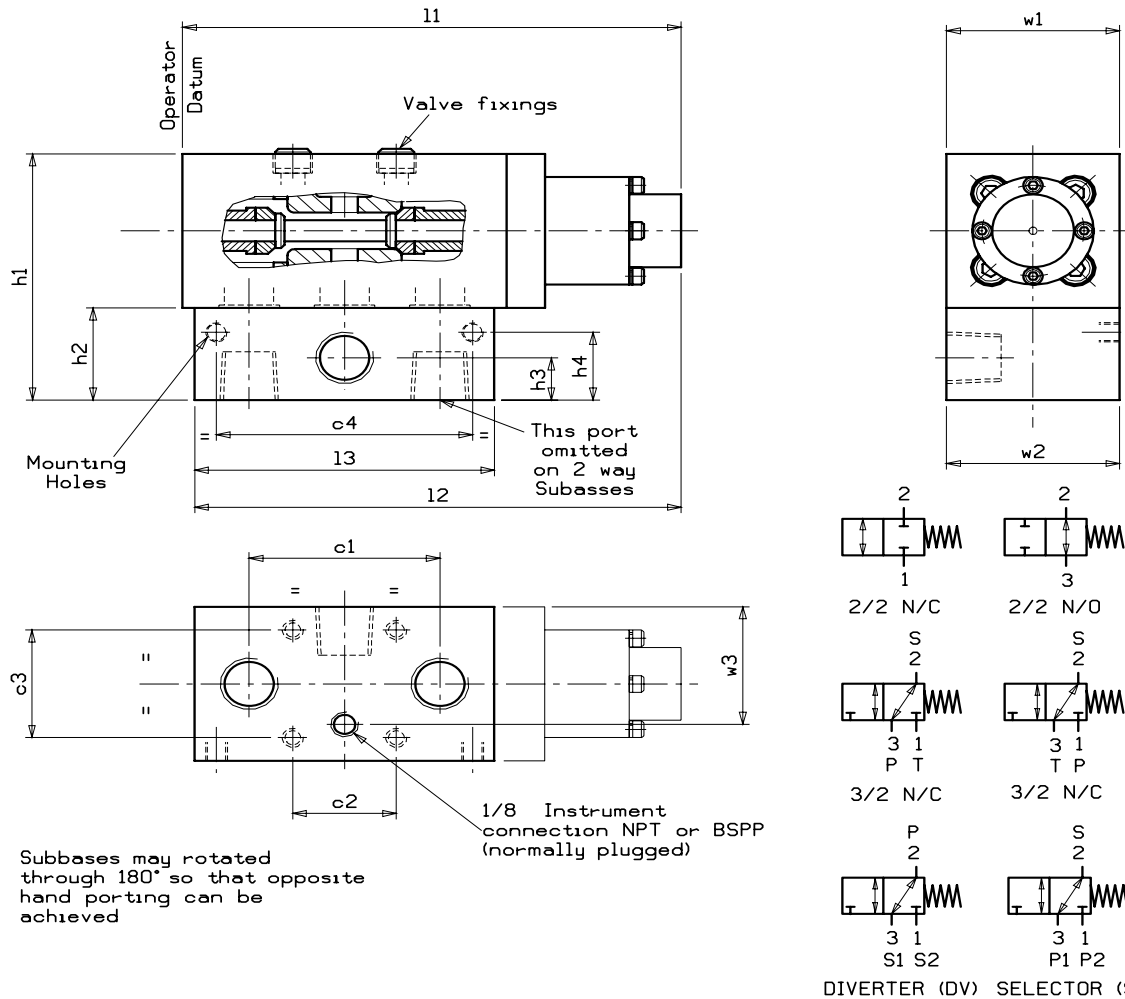
NOTES:-

For 4 way, 2 position two stage valves, the above 3/2 installation requirements apply. For 4 way, 3 position two stage valves, refer to series mounted valve installation details.

At no time during operation of the valve to the piloted position should the supply pressure be allowed to fall below the minimum pilot pressure quoted for the operator fitted.

2/2, 3/2, DV & SV Body & Subbase

Reliability and Innovation in directional control valves



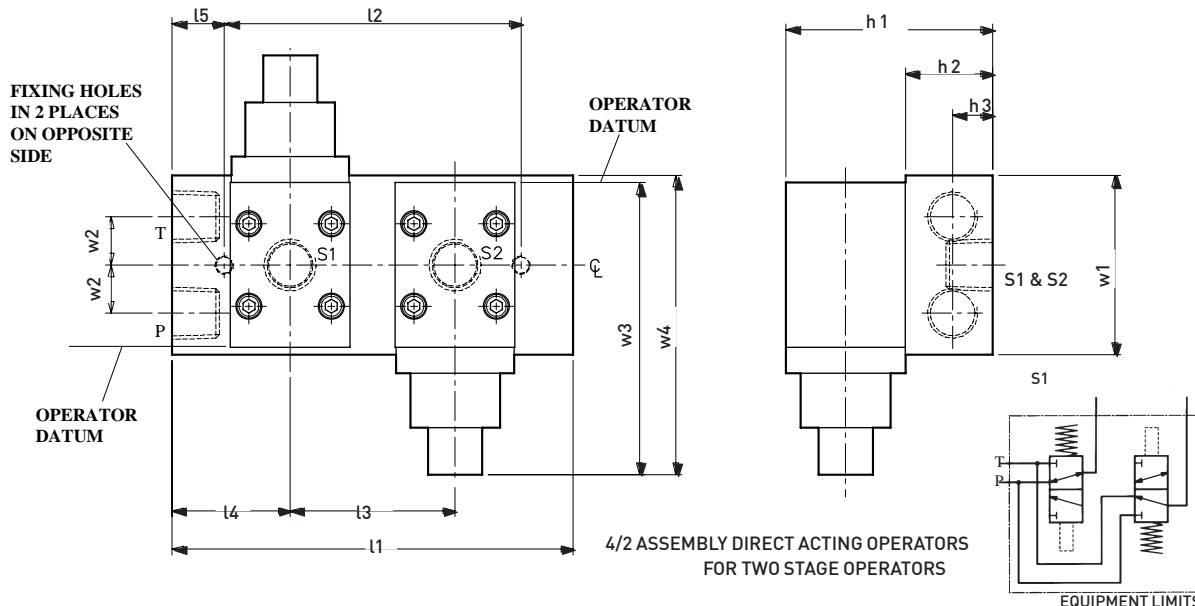
MODEL	c1	c2	c3	c4	h1	h2	h3	h4	l1	l2	l3	w1	w2	w3
FP50	41	35	35	60	82.6	31.8	16.5	22	124	127.1	76.2	50.8	60	45
FP100/200	70	38	45	94	101.6	38.1	17.5	28	183	178.5	110	63.5	63.5	48.5
MODEL	Valve Fixings			Engagement	O-ring	Mounting holes	Weight (kg)							
	Size	Torque (Nm)												
FP50	M6 X 50	7.3	10	BS0101-16	M6 x 1.0p x 10DP	2.0								
FP100/200	M8 x 70	17.7	13	BS0191-16	M8 x 1.25p x 10DP	4.65								

ALL DIMENSIONS IN MILLIMETRES

FP50 (Single Station Manifold)				FP100 & 200 (Single Station Manifold)			
Code		Porting	Weight kg	Code		Porting	Weight kg
2 Way	3 Way			2 Way	3 Way		
M164/02	M162/02	3/8 NPT	1.0	M143/02	M141/02	1/2 NPT	2.0
M159/02	M147/02	1/2 NPT	1.0	M157/02	M140/02	3/4 NPT	2.0
M165/02	M163/02	3/8 BSPP	1.0	M156/02	M152/02	1/2 BSPP	2.0
M160/02	M158/02	1/2 BSPP	1.0	M155/02	M154/02	3/4 BSPP	2.0

For special multipurpose subbases consult Bifold Fluidpower

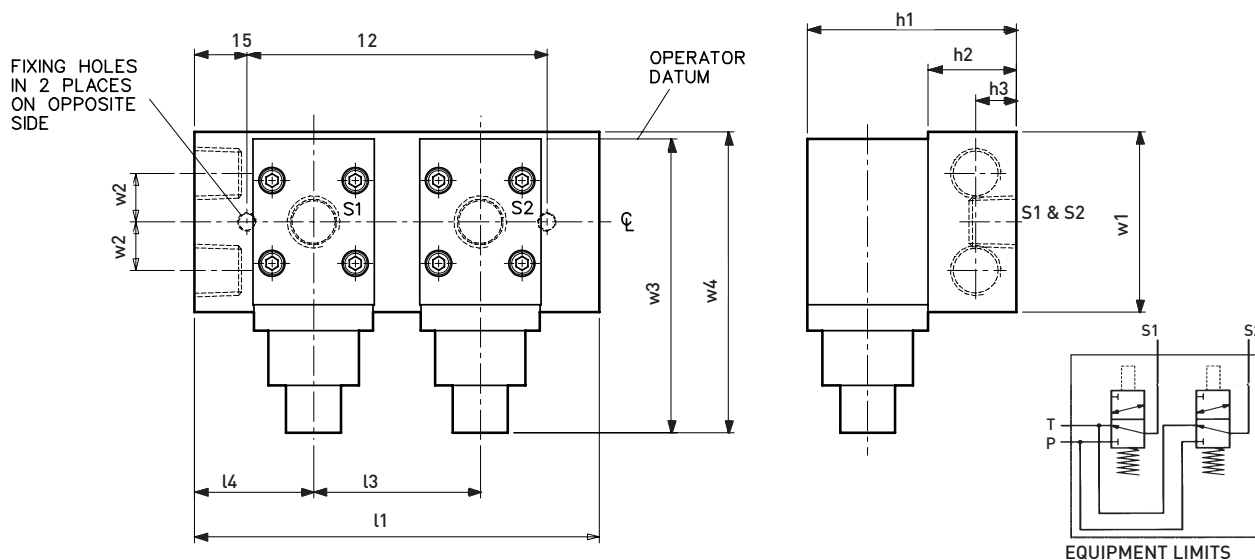
4/2 Body Assembly (Code 42) direct acting operators



MODEL	OPERATOR	h1	h2	h3	l1	l2	l3	l4	l5	w1	w2	w3	w4	CONNECTIONS	WEIGHT kg	FIXINGS
FP50	H'X'	89	38	17	155	105	55	50	25	76.2	20.5	124	127	1/2	7.5	M8 x 15 DP
FP50	L1 & SL1	89	38	17	180	130	80	50	25	76.2	20.5	124	127	1/2	8.1	M8 x 15 DP
FP100/200	H'X'	100	36	18	175	135	66	54.5	20	110	35	183	178.5	1/2 OR 3/4	14.7	M10 x 15 DP
FP100/200	L1 & SL1	100	36	18	199	159	90	54.5	20	110	35	183	178.5	1/2 OR 3/4	15.4	M10 x 15 DP

OPERATOR WEIGHT NOT INCLUDED

4/3 Body Assembly (Code 43) direct acting operators

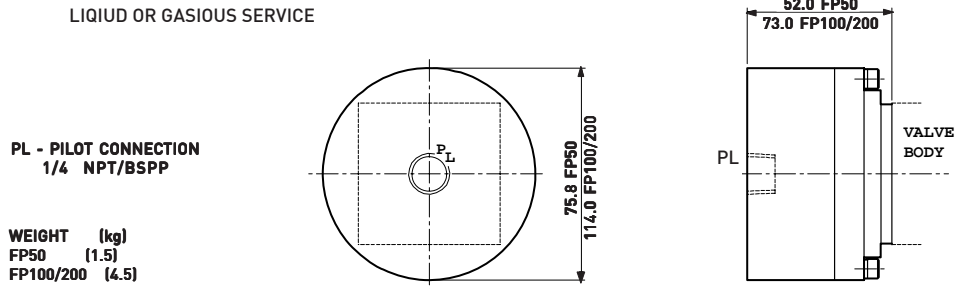


MODEL	OPERATOR	h1	h2	h3	l1	l2	l3	l4	l5	w1	w2	w3	w4	CONNECTIONS	WEIGHT kg	FIXINGS
FP50	H'X'	89	38	17	155	105	55	50	25	76.2	20.5	124	127	1/2	7.5	M8 x 15 DP
FP50	L1 & SL1	89	38	17	180	130	80	50	25	76.2	20.5	124	127	1/2	8.1	M8 x 15 DP
FP50	SH'X'	89	38	17	210	160	110	50	25	76.2	20.5	124	127	1/2	9.0	M8 x 15 DP
FP100/200	H'X'	100	36	18	175	135	66	54.5	20	110	35	183	178.5	1/2 OR 3/4	14.7	M10 x 15 DP
FP100/200	L1 & SL1	100	36	18	229	189	120	54.5	20	110	35	183	178.5	1/2 OR 3/4	16.3	M10 x 15 DP
FP100/200	SH'X'	100	36	18	219	179	110	54.5	20	110	35	183	178.5	1/2 OR 3/4	16.0	M10 x 15 DP

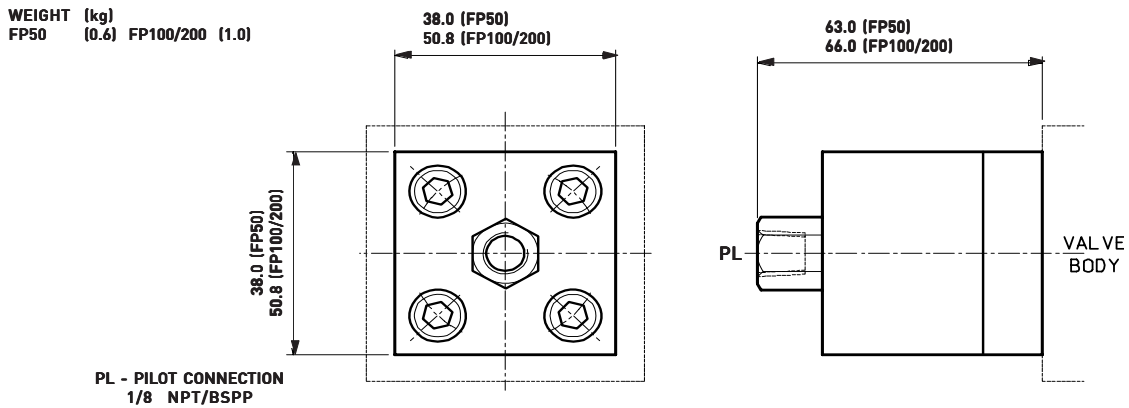
OPERATOR WEIGHT NOT INCLUDED

PILOT OPERATORS

Low Pressure Pilot Operators (Code L1)

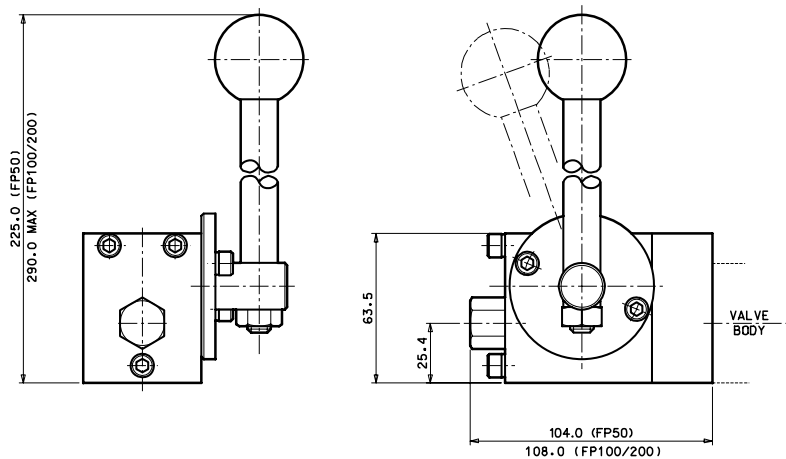


High Pressure Pilot Operators (Code Hx)



MANUAL OPERATORS

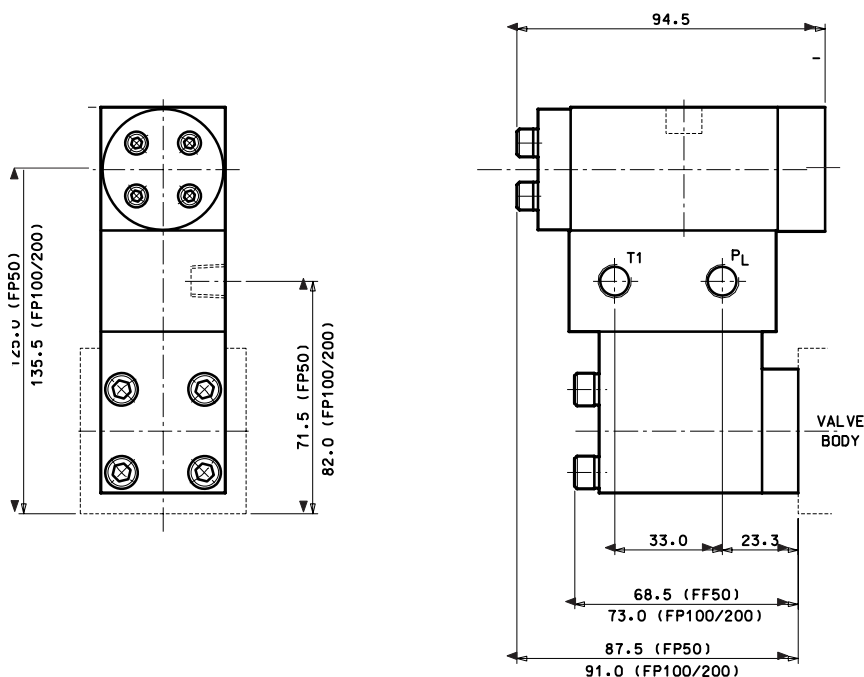
Manual Lever Operation (Code M)



WEIGHT:FP50/100/200 - 2.6Kg

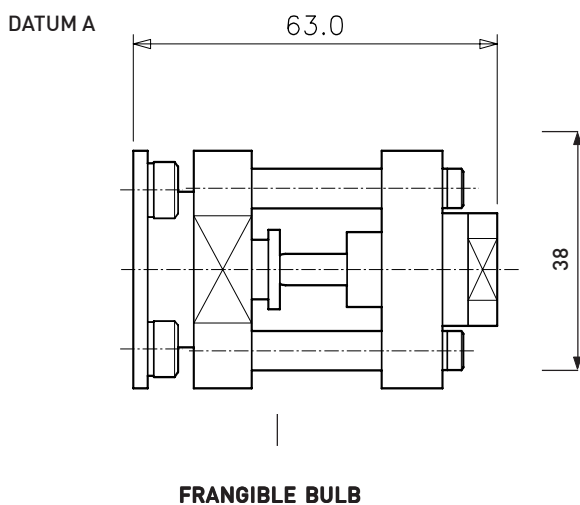
Pilot Stage Valve for Frangible Bulb Operators (Code FBVH'X')

CONNECTIONS
 SUPPLY P_L - 1/8 NPT/BSPP
 DRAIN T1 - 1/8 NPT/BSPP



WEIGHT: FP50 2.3 kg
 FP100/200 3kg

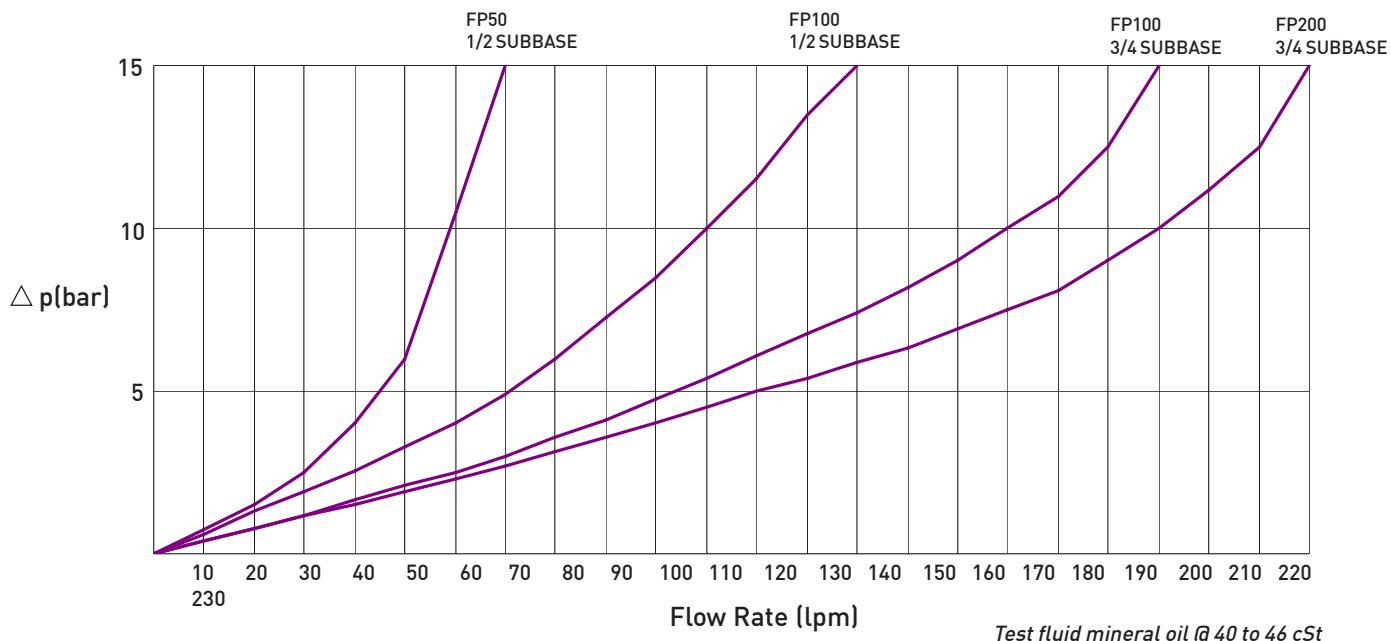
Franbible Bulb Operator (Code FBVH'X')



BULB COLOUR	TEMPERATURE RANGE Deg.C
Orange	57 (Tol +/- 3.5%)
Red	68 (Tol +/- 3.5%)
Yellow	79 (Tol +/- 3.5%)
Green	93 (Tol +/- 3.5%)
Blue	141 (Tol +/- 3.5%)
Mauve	182 (Tol +/- 3.5%)

WEIGHT 0.35kg

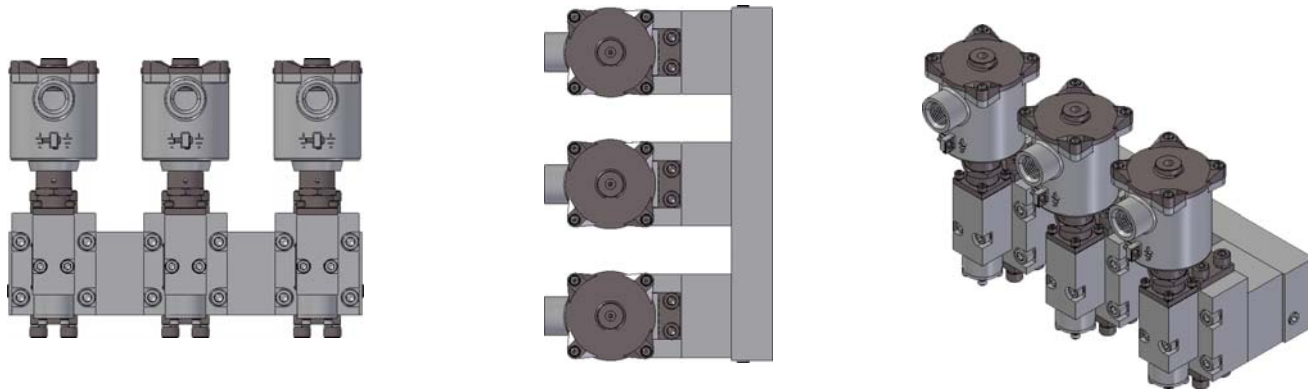
FLOW PERFORMANCE



Manifold Options

Bifold Fluidpower has the technical capability to manifold many circuit requirements.

- Reduced leak paths - eliminate fittings
- Simple maintenance
- Integral check valves, gauge port, needle valves - reduce system cost
- Manifold assembly fully tested
- 3D model drawings available to incorporate into customer circuits



Contact Bifold Fluidpower with circuit requirements.
solenoid

Model Shown is a 3 station FP15 with 97C

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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. 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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