

Linear slide valves**Page numbers**

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Linear slide valves - Solenoid operated**Page numbers**

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Linear slide valves - Pilot air operated**Page numbers**

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1/4", 3/8", 1/2", 3/4", 1"	4/2 Double pilot air operated	800.8, 800.9
1/4", 3/8", 1/2", 3/4"	4/3 Double pilot air operated, spring centre, pressure held neutral/pressure release neutral	800.8, 800.9

Linear slide valves - Manually operated**Page numbers**

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1/2"	4/3 Hand lever operated, 3 position positive pressure held neutral/pressure release neutral	800.10
1/2"	4/3 Hand lever operated, 3 position spring centre, pressure held neutral/pressure release neutral	800.10

Semi-Rotary slide valves - Manually operated**Page numbers**

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1/8", 1/4", 3/8"	4/2 Hand lever operated, 2 position positive	800.12, 800.14
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1/8", 1/4", 3/8"	4/3 Hand lever operated, 3 position positive pressure held neutral/pressure release neutral	800.13, 800.15
1/8", 1/4", 3/8"	4/3 Hand lever operated, 3 position spring centre, pressure held neutral/pressure release neutral	800.13, 800.15
1/8", 1/4"	4/3 Switch operated, 3 position positive pressure held neutral/pressure release neutral	800.13, 800.16
1/8", 1/4"	4/2 Switch operated, 3 position spring centre, pressure held neutral/pressure release neutral	800.13, 800.16
1/4"	Foot mounting bracket	800.16

**'FLUOSLIDE' 1/4", 3/8", 1/2", 3/4", 1" BSP
4/2 + 4/3 DIRECTIONAL CONTROL VALVES**

Pilot solenoid, Pilot air, Manual (lever) operated

General description and benefits

A range of heavy duty 4/2 and 4/3 pilot solenoid operated 'Fluoslide' directional control valves in brass or aluminium for use on compressed air.

- Heavy duty.
- High flow.
- Compact.

Operating fluids

Compressed air

Filtered and lubricated compressed air up to 7 bar (100 psi).
ISO VG37 mineral oil (or equivalent) is recommended for use at normal ambient temperatures.

Liquids

Oil or water up to 20 bar (300 psi) (details on application).

Technical data

Ports

1/4", 3/8", 1/2", 3/4", 1" BSP
1/8" BSP pilot ports

Cv (Kv)

1/4" - 1.06 (15)
3/8" - 1.70 (24)
1/2" - 2.60 (49) - 2 position
 2.30 (33) - 3 position
3/4" - 5.00 (71)
1" - 8.00 (114)

Working pressure

Double operated
up to 7 bar (100 psi)
Single operated, spring return
4 to 7 bar (58 to 100 psi)

Note: For pressures below 4 bar (58 psi) or higher pressures up to 10 bar (145 psi) please specify (different springs are fitted)

Valves for pressures up to 20 bar (300 psi) and for vacuum are also available - details on application

Working temperature

-20°C to +70°C (-4°F to +158°F)

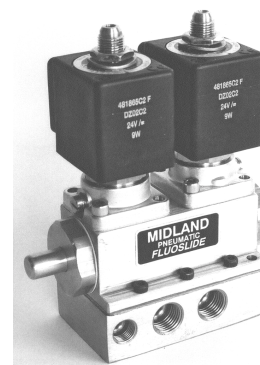
Flow

at 7 bar (100 psi) to atmosphere

1/4" - 30 dm³/sec (64 SCFM)
3/8" - 54 dm³/sec (114 SCFM)
1/2" - 70 dm³/sec (148 SCFM) - 2 pos
 65 dm³/sec (138 SCFM) - 3 pos
3/4" - 156 dm³/sec (331 SCFM)
1" - 200 dm³/sec (424 SCFM)

Solenoid

Fully encapsulated, Class F coil fitted with 3 pin socket connector to DIN43650A with gland screw at cable entry.
9W DC, 9W AC (inrush 32VA)



Materials of construction

Body

1/4", 3/8", 1/2" - Brass
3/4", 1" - Anodised aluminium alloy
1" - Brass available to order

Port block

1/4", 3/8" - Brass
1/2", 3/4", 1" - Anodised aluminium alloy
1/2", 3/4", 1" - Brass available to order

Spool

Anodised aluminium alloy

Slide

Graphite filled PTFE

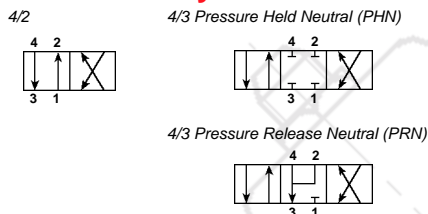
Springs

Heat treated carbon steel

Seals

Nitrile
(Fluoroelastomer to special order)

Functional symbol



Model code



- ① **Size**
2 = 1/4"
3 = 3/8"
4 = 1/2"
6 = 3/4"
8 = 1"

- ② **Number of ports**
4 = 4

- ③ **Number of positions**
2 = 2
3 = 3

- ④ **Type**
1 = Linear slide

- ⑤ **Function**
B = Bi stable
D = Positive PHN
E = Positive PRN
H = Self centering PHN
M = Mono stable
R = Self centering PRN

- ⑥ **Operator LH**
1 = Air
2 = Spring
3 = Solenoid
5 = Hand (lever)

- ⑦ **Operator RH**
1 = Air
2 = Spring
3 = Solenoid
5 = Hand (lever)

- ⑧ **Accessories**
- = None
3 = Detent
P = Manual override (on solenoid)

- ⑨ **Material**
A = Aluminium/nitrile
B = Brass/nitrile

- ⑫ **Port style**
G = Without port block
P = With port block
S = Sub-base c/w port block

- ⑩ **Style**
A = AV
B = BV
M = VM

- ⑪ **Port type**
1 = BSP

- ⑬ **Solenoid type**
4 = 32mm solenoid (non hazardous)
X = without coil and operator
Z = M20 x 1.5

- ⑭ **Solenoid voltage code**
D = 24v DC
M = 110v 50/60Hz AC
S = 220/230v 50/60Hz AC
other voltages to special order

"FLUOSLIDE" 1/4", 3/8", 1/2", 3/4", 1" BSP 4/2 + 4/3 DIRECTIONAL CONTROL VALVES

**HEAVY
DUTY
VALVES**

Pilot solenoid operated

Preferred models

4/2 Single pilot solenoid operated

Model No	Description	Mass kg (lbs)	Symbol
2421M23-BM1P4 +	1/4"BSP 4/2 Pilot solenoid operated, spring return	1.17 (2.58)	
2421M23PBM1P4 +	1/4"BSP 4/2 Pilot solenoid operated, spring return, manual override	1.17 (2.58)	
2421M13-BM1P4 +	1/4"BSP 4/2 Pilot solenoid operated, pilot air return	1.17 (2.58)	
2421M13PBM1P4 +	1/4"BSP 4/2 Pilot solenoid operated, air return, manual override	1.17 (2.58)	
3421M23-BM1P4 +	3/8"BSP 4/2 Pilot solenoid operated, spring return	2.00 (4.41)	
3421M23PBM1P4 +	3/8"BSP 4/2 Pilot solenoid operated, spring return, manual override	2.00 (4.41)	
3421M13-BM1P4 +	3/8"BSP 4/2 Pilot solenoid operated, pilot air return	2.00 (4.41)	
3421M13PBM1P4 +	3/8"BSP 4/2 Pilot solenoid operated, air return, manual override	2.00 (4.41)	
4421M23-AA1S4 +	1/2"BSP 4/2 Pilot solenoid operated, spring return	2.50 (5.51)	
4421M23PAA1S4 +	1/2"BSP 4/2 Pilot solenoid operated, spring return, manual override	2.50 (5.51)	
4421M13-AA1S4 +	1/2"BSP 4/2 Pilot solenoid operated, pilot air return	2.50 (5.51)	
4421M13PAA1S4 +	1/2"BSP 4/2 Pilot solenoid operated, air return, manual override	2.50 (5.51)	
6421M23-AB1S4 +	3/4"BSP 4/2 Pilot solenoid operated, spring return	4.10 (9.04)	
6421M23PAB1S4 +	3/4"BSP 4/2 Pilot solenoid operated, spring return, manual override	4.10 (9.04)	
6421M13-AB1S4 +	3/4"BSP 4/2 Pilot solenoid operated, pilot air return	4.10 (9.04)	
6421M13PAB1S4 +	3/4"BSP 4/2 Pilot solenoid operated, air return, manual override	4.10 (9.04)	
8421M23-AB1S4 +	1"BSP 4/2 Pilot solenoid operated, spring return	6.10 (13.45)	
8421M23PAB1S4 +	1"BSP 4/2 Pilot solenoid operated, spring return, manual override	6.10 (13.45)	
8421M13-AB1S4 +	1"BSP 4/2 Pilot solenoid operated, pilot air return	6.10 (13.45)	
8421M13PAB1S4 +	1"BSP 4/2 Pilot solenoid operated, air return, manual override	6.10 (13.45)	

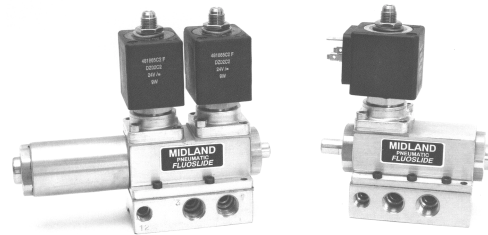
+ Specify solenoid voltage

All valves can be supplied without port block - specify 'G' in position 12 of model code.

1/4" and 3/8" valves can be sub-base mounted - specify 'S' in position 12 of model code.

For 4/2 double pilot solenoid operated preferred models see page 800.4

For 4/3 double pilot solenoid operated preferred models see pages 800.4, 800.5



Preferred models

4/2 Double pilot solenoid operated

Model No	Description	Mass kg (lbs)	Symbol
2421B33-BM1P4 +	1/4"BSP 4/2 Double pilot solenoid operated	1.45 (3.20)	
2421B33PBM1P4 +	1/4"BSP 4/2 Double pilot solenoid operated, manual override	1.45 (3.20)	
3421B33-BM1P4 +	3/8"BSP 4/2 Double pilot solenoid operated	2.28 (5.03)	
3421B33PBM1P4 +	3/8"BSP 4/2 Double pilot solenoid operated, manual override	2.28 (5.03)	
4421B33-AA1S4 +	1/2"BSP 4/2 Double pilot solenoid operated	2.46 (5.42)	
4421B33PAA1S4 +	1/2"BSP 4/2 Double pilot solenoid operated, manual override	2.46 (5.42)	
6421B33-AB1S4 +	3/4"BSP 4/2 Double pilot solenoid operated	4.40 (9.70)	
6421B33PAB1S4 +	3/4"BSP 4/2 Double pilot solenoid operated, manual override	4.40 (9.70)	
8421B33-AB1S4 +	1"BSP 4/2 Double pilot solenoid operated	6.48 (14.29)	
8421B33PAB1S4 +	1"BSP 4/2 Double pilot solenoid operated, manual override	6.48 (14.29)	

4/3 Double pilot solenoid operated, spring centre - Pressure held neutral (PHN)

Model No	Description	Mass kg (lbs)	Symbol
2431H33-BM1S4 +	1/4"BSP 4/3 PHN Double pilot solenoid operated	1.75 (3.86)	
2431H33PBM1S4 +	1/4"BSP 4/3 PHN Double pilot solenoid operated, manual override	1.75 (3.86)	
3431H33-BM1S4 +	3/8"BSP 4/3 PHN Double pilot solenoid operated	2.60 (5.73)	
3431H33PBM1S4 +	3/8"BSP 4/3 PHN Double pilot solenoid operated, manual override	2.60 (5.73)	
4431H33-AA1S4 +	1/2"BSP 4/3 PHN Double pilot solenoid operated	3.00 (6.61)	
4431H33PAA1S4 +	1/2"BSP 4/3 PHN Double pilot solenoid operated, manual override	3.00 (6.61)	
6431H33-AB1S4 +	3/4"BSP 4/3 PHN Double pilot solenoid operated	4.90 (10.80)	
6431H33PAB1S4 +	3/4"BSP 4/3 PHN Double pilot solenoid operated, manual override	4.90 (10.80)	

+ Specify solenoid voltage

All valves can be supplied without port block - specify 'G' in position 12 of model code.
1/4" and 3/8" valves can be sub-base mounted - specify 'S' in position 12 of model code.

"FLUOSLIDE" 1/4", 3/8", 1/2", 3/4", 1" BSP 4/2 + 4/3 DIRECTIONAL CONTROL VALVES

**HEAVY
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VALVES**

Pilot solenoid operated

Preferred models

4/3 Double pilot solenoid operated, spring centre - Pressure release neutral (PRN)

Model No	Description	Mass kg (lbs)	Symbol
2431R33-BM1S4 +	1/4"BSP 4/3 PRN Double pilot solenoid operated	1.75 (3.86)	
2431R33PBM1S4 +	1/4"BSP 4/3 PRN Double pilot solenoid operated, manual override	1.75 (3.86)	
3431R33-BM1S4 +	3/8"BSP 4/3 PRN Double pilot solenoid operated	2.60 (5.73)	
3431R33PBM1S4 +	3/8"BSP 4/3 PRN Double pilot solenoid operated, manual override	2.60 (5.73)	
4431R33-AA1S4 +	1/2"BSP 4/3 PRN Double pilot solenoid operated	3.00 (6.61)	
4431R33PAA1S4 +	1/2"BSP 4/3 PRN Double pilot solenoid operated, manual override	3.00 (6.61)	
6431R33-AB1S4 +	3/4"BSP 4/3 PRN Double pilot solenoid operated	4.90 (10.80)	
6431R33PAB1S4 +	3/4"BSP 4/3 PRN Double pilot solenoid operated, manual override	4.90 (10.80)	

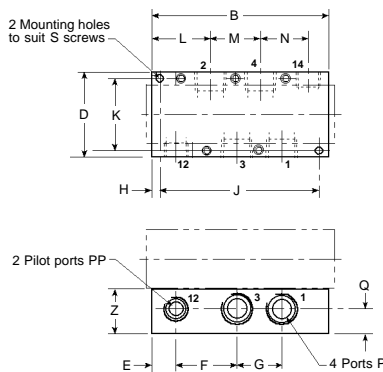
+ Specify solenoid voltage

All valves can be supplied without port block - specify 'G' in position 12 of model code.

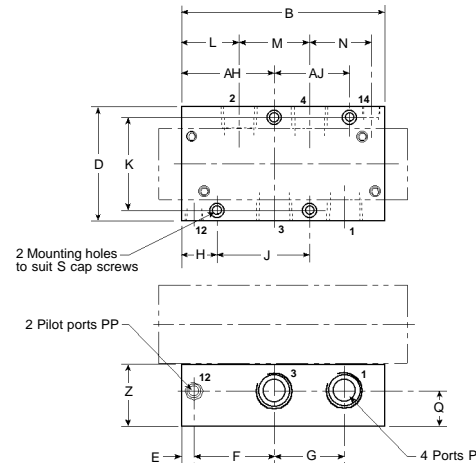
1/4" and 3/8" valves can be sub-base mounted - specify 'S' in position 12 of model code.

Installation dimensions mm

**4/2, 4/3 Port block
1/4", 3/8", 1/2"**



**4/2, 4/3 Port block
3/4", 1"**



Size	B	D	E	F	G	H	J	K	L	M	N	P	PP	Q	S	Z	AH	AJ
1/4"	70	46	6	29	20	5	60	39	25	20	19	1/4"BSP	1/8"BSP	12	M4	24	-	-
3/8"	95	46	8	37	24	5	85	39	33	24	30	3/8"BSP	1/8"BSP	13	M4	24	-	-
1/2"	108	70	9.5	41	33	6	95	57	34	33	31	1/2"BSP	1/8"BSP	17	M5	31	-	-
3/4"	146	83	8	59	51	25	67	67	41	51	46	3/4"BSP	1/8"BSP	25	M6	44	67	54
1"	159	114	9.5	54	63.5	25	70	98	32	63.5	54	1"BSP	1/8"BSP	24	M6	48	63.5	70

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800.5

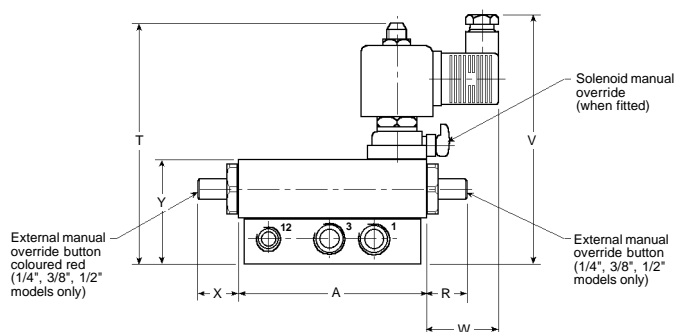
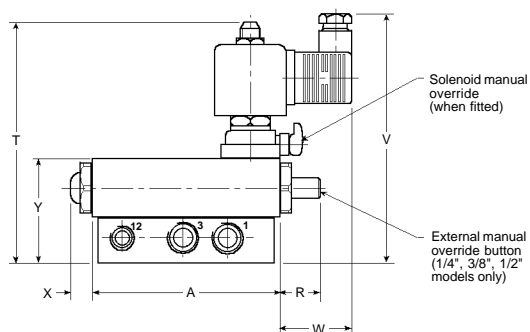
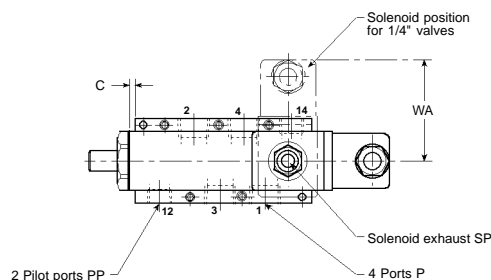
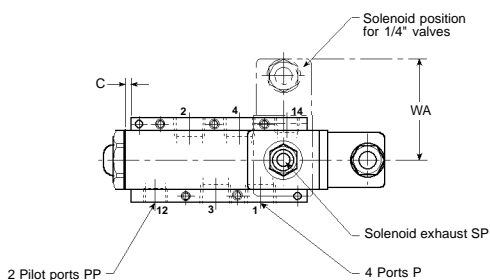
Installation dimensions mm

**4/2 Single pilot solenoid operated
spring return
1/4", 3/8", 1/2", 3/4", 1"**

2421M23-BM1P4* 2421M23PBM1P4*
3421M23-BM1P4* 3421M23PBM1P4*
4421M23-AA1S4* 4421M23PAA1S4*
6421M23-AB1S4* 6421M23PAB1S4*
8421M23-AB1S4* 8421M23PAB1S4*

**4/2 Single pilot solenoid operated
pilot air return
1/4", 3/8", 1/2", 3/4", 1"**

2421M13-BM1P4* 2421M13PBM1P4*
3421M13-BM1P4* 3421M13PBM1P4*
4421M13-AA1S4* 4421M13PAA1S4*
6421M13-AB1S4* 6421M13PAB1S4*
8421M13-AB1S4* 8421M13PAB1S4*



For port block, port positions and mounting hole details see page 800.5

Model No	A	C	P	PP	R	S	SP	T	V	W	WA	X	Y
4/2 Single pilot solenoid operated, spring return													
2421M23-BM1P4*	70	-	1/4" BSP	1/8" BSP	22	M4	G1/8"	124	130	-	51	11	52
3421M23-BM1P4*	95	-	3/8" BSP	1/8" BSP	22	M4	G1/8"	127	133	35	-	11	55
4421M23-AA1S4*	134	14	1/2" BSP	1/8" BSP	37	M5	G1/8"	149	155	35	-	11	77
6421M23-AB1S4*	176	15	3/4" BSP	1/8" BSP	-	M6	G1/8"	172	178	35	-	20	100
8421M23-AB1S4*	219	42	1" BSP	1/8" BSP	-	M6	G1/8"	194	200	35	-	30	122
4/2 Single pilot solenoid operated, pilot air return													
2421M13-BM1P4*	70	-	1/4" BSP	1/8" BSP	22	M4	G1/8"	124	130	-	51	22	52
3421M13-BM1P4*	95	-	3/8" BSP	1/8" BSP	22	M4	G1/8"	127	133	35	-	22	55
4421M13-AA1S4*	134	14	1/2" BSP	1/8" BSP	37	M5	G1/8"	149	155	35	-	22	77
6421M13-AB1S4*	176	15	3/4" BSP	1/8" BSP	-	M6	G1/8"	172	178	35	-	-	100
8421M13-AB1S4*	219	42	1" BSP	1/8" BSP	-	M6	G1/8"	194	200	35	-	-	122

* Solenoid voltage - see position 14 page 800.2

For solenoid operator fitted with manual override specify 'P' in place of '-' in position 8 of model code

'FLUOSLIDE' 1/4", 3/8", 1/2", 3/4", 1" BSP 4/2 + 4/3 DIRECTIONAL CONTROL VALVES

**HEAVY
DUTY
VALVES**

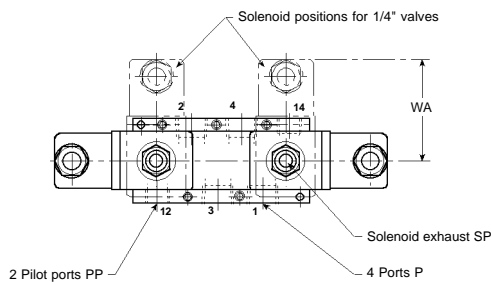
Pilot solenoid operated

Installation dimensions mm

4/2 Double pilot solenoid operated 1/4", 3/8", 1/2", 3/4", 1"

2421B33-BM1P4*
3421B33-BM1P4*
4421B33-AA1S4*
6421B33-AB1S4*
8421B33-AB1S4*

2421B33PBM1P4*
3421B33PBM1P4*
4421B33PAA1S4*
6421B33PAB1S4*
8421B33PAB1S4*



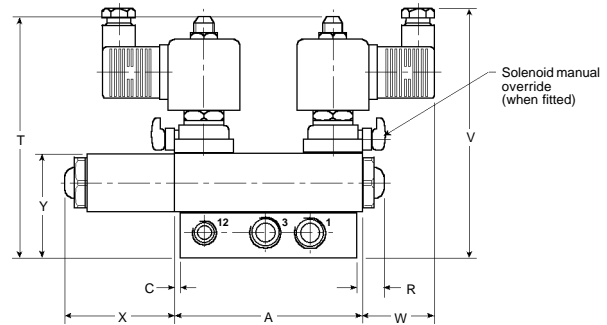
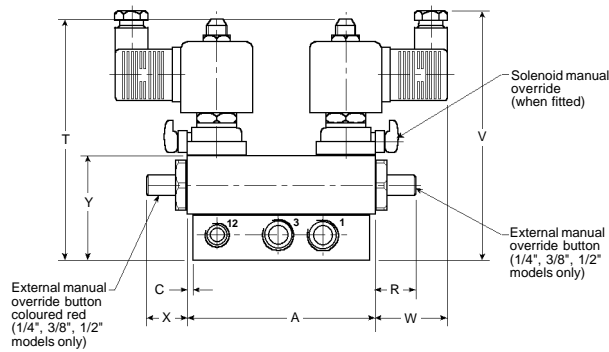
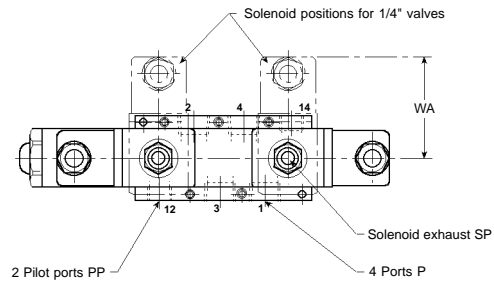
4/3 Double pilot solenoid operated spring centre, PHN, PRN 1/4", 3/8", 1/2", 3/4"

2431H33-BM1S4*
3431H33-BM1S4*
4431H33-AA1S4*
6431H33-AB1S4*

2431H33PBM1S4*
3431H33PBM1S4*
4431H33PAA1S4*
6431H33PAB1S4*

2431R33-BM1S4*
3431R33-BM1S4*
4431R33-AA1S4*
6431R33-AB1S4*

2431R33PBM1S4*
3431R33PBM1S4*
4431R33PAA1S4*
6431R33PAB1S4*



For port block, port positions and mounting hole details see page 800.5

Model No	A	C	P	PP	R	S	SP	T	V	W	WA	X	Y
4/2 Double pilot solenoid operated													
2421B33-BM1P4*	70	-	1/4"BSP	1/8"BSP	22	M4	G1/8"	124	130	-	51	22	52
3421B33-BM1P4*	95	-	3/8"BSP	1/8"BSP	22	M4	G1/8"	127	133	35	-	22	55
4421B33-AA1S4*	134	14	1/2"BSP	1/8"BSP	37	M5	G1/8"	149	155	35	-	22	77
6421B33-AB1S4*	176	15	3/4"BSP	1/8"BSP	-	M6	G1/8"	172	178	35	-	-	100
8421B33-AB1S4*	219	42	1"BSP	1/8"BSP	-	M6	G1/8"	194	200	35	-	-	122
4/3 Double pilot solenoid operated, spring centre - Pressure held neutral, Pressure release neutral													
2431H33-BM1S4*	95	-	1/4"BSP	1/8"BSP	10.5	M4	G1/8"	124	130	-	51	53	52
2431R33-BM1S4*	95	-	1/4"BSP	1/8"BSP	10.5	M4	G1/8"	124	130	-	51	53	52
3431H33-BM1S4*	95	-	3/8"BSP	1/8"BSP	10.5	M4	G1/8"	127	133	35	-	53	55
3431R33-BM1S4*	95	-	3/8"BSP	1/8"BSP	10.5	M4	G1/8"	127	133	35	-	53	55
4431H33-AA1S4*	134	14	1/2"BSP	1/8"BSP	8	M5	G1/8"	149	155	35	-	60	77
4431R33-AA1S4*	134	14	1/2"BSP	1/8"BSP	8	M5	G1/8"	149	155	35	-	60	77
6431H33-AB1S4*	206	34	3/4"BSP	1/8"BSP	-	M6	G1/8"	172	178	35	-	81	100
6431R33-AB1S4*	206	34	3/4"BSP	1/8"BSP	-	M6	G1/8"	172	178	35	-	81	100

* Solenoid voltage - see position 14 page 800.2

For solenoid operator fitted with manual override specify 'P' in place of '1' in position 8 of model code

**MIDLAND
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Preferred models

4/2 Pilot air operated

Model No	Description	Mass kg (lbs)	Symbol
2421M21-BM1P	1/4"BSP 4/2 Pilot air operated, spring return	0.88 (1.94)	
2421B11-BM1P	1/4"BSP 4/2 Double pilot air operated	0.88 (1.94)	
3421M21-BM1P	3/8"BSP 4/2 Pilot air operated, spring return	1.71 (3.77)	
3421B11-BM1P	3/8"BSP 4/2 Double pilot air operated	1.71 (3.77)	
4421M21-AA1S	1/2"BSP 4/2 Pilot air operated, spring return	2.10 (4.63)	
4421B11-AA1S	1/2"BSP 4/2 Double pilot air operated	2.05 (4.52)	
6421M21-AB1S	3/4"BSP 4/2 Pilot air operated, spring return	3.80 (8.38)	
6421B11-AB1S	3/4"BSP 4/2 Double pilot air operated	3.70 (8.16)	
8421M21-AB1S	1"BSP 4/2 Pilot air operated, spring return	5.80 (12.79)	
8421B11-AB1S	1"BSP 4/2 Double pilot air operated	5.78 (12.74)	

4/3 Double pilot air operated, spring centre - Pressure held neutral (PHN)

Model No	Description	Mass kg (lbs)	Symbol
2431H11-BM1S	1/4"BSP 4/3 PHN Double pilot air operated	1.18 (2.60)	
3431H11-BM1S	3/8"BSP 4/3 PHN Double pilot air operated	2.21 (4.87)	
4431H11-AA1S	1/2"BSP 4/3 PHN Double pilot air operated	2.64 (5.82)	
6431H11-AB1S	3/4"BSP 4/3 PHN Double pilot air operated	4.30 (9.48)	

4/3 Double pilot air operated, spring centre - Pressure release neutral (PRN)

Model No	Description	Mass kg (lbs)	Symbol
2431R11-BM1S	1/4"BSP 4/3 PRN Double pilot air operated	1.18 (2.60)	
3431R11-BM1S	3/8"BSP 4/3 PRN Double pilot air operated	2.21 (4.87)	
4431R11-AA1S	1/2"BSP 4/3 PRN Double pilot air operated	2.64 (5.82)	
6431R11-AB1S	3/4"BSP 4/3 PRN Double pilot air operated	4.30 (9.48)	

All valves can be supplied without port block - specify 'G' in position 12 of model code.

1/4" and 3/8" valves can be sub-base mounted - specify 'S' in position 12 of model code.

'FLUOSLIDE' 1/4", 3/8", 1/2", 3/4", 1" BSP 4/2 + 4/3 DIRECTIONAL CONTROL VALVES

**HEAVY
DUTY
VALVES**

Pilot air operated

Installation dimensions mm

4/2 Pilot air operated spring return 1/4", 3/8", 1/2", 3/4", 1"

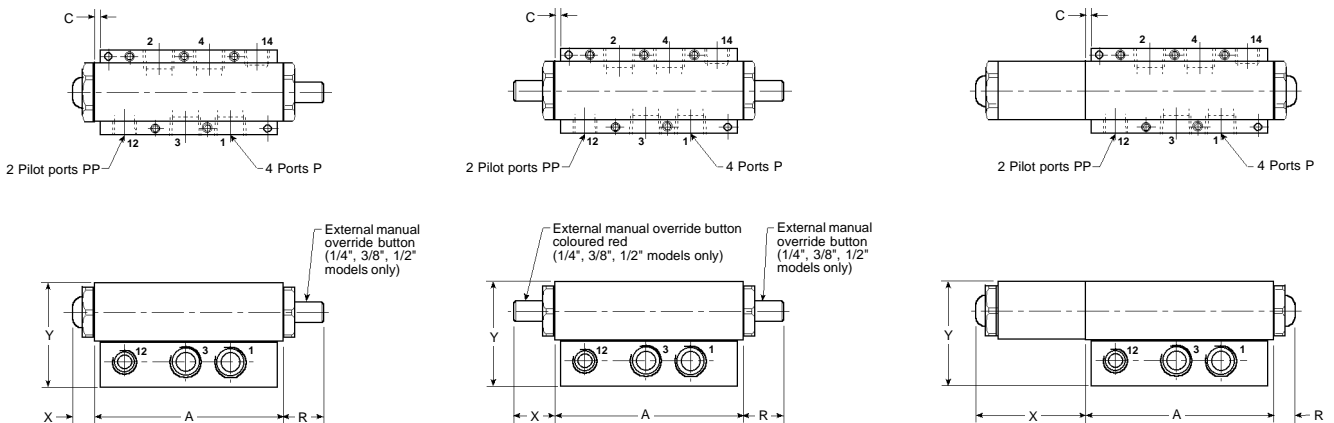
2421M21-BM1P
3421M21-BM1P
4421M21-AA1S
6421M21-AB1S
8421M21-AB1S

4/2 Double pilot air operated 1/4", 3/8", 1/2", 3/4", 1"

2421B11-BM1P
3421B11-BM1P
4421B11-AA1S
6421B11-AB1S
8421B11-AB1S

4/3 Double pilot air operated spring centre, PHN, PRN 1/4", 3/8", 1/2", 3/4"

2431H11-BM1S 2431R11-BM1S
3431H11-BM1S 3431R11-BM1S
4431H11-AA1S 4431R11-AA1S
6431H11-AB1S 6431R11-AB1S



For port block, port positions and mounting hole details see page 800.5

Model No	A	C	P	PP	R	X	Y
4/2 Pilot air operated, spring return							
2421M21-BM1P	70	-	1/4"BSP	1/8"BSP	22	11	52
3421M21-BM1P	95	-	3/8"BSP	1/8"BSP	22	11	55
4421M21-AA1S	134	14	1/2"BSP	1/8"BSP	37	11	77
6421M21-AB1S	176	15	3/4"BSP	1/8"BSP	-	20	101
8421M21-AB1S	219	42	1"BSP	1/8"BSP	-	30	122
4/2 Double pilot air operated							
2421B11-BM1P	70	-	1/4"BSP	1/8"BSP	22	22	52
3421B11-BM1P	95	-	3/8"BSP	1/8"BSP	22	22	55
4421B11-AA1S	134	14	1/2"BSP	1/8"BSP	37	37	77
6421B11-AB1S	176	15	3/4"BSP	1/8"BSP	-	-	101
8421B11-AB1S	219	42	1"BSP	1/8"BSP	-	-	122
4/3 Double pilot air operated, spring centre - Pressure held neutral, Pressure release neutral							
2431H11-BM1S	95	-	1/4"BSP	1/8"BSP	10.5	53	52
2431R11-BM1S	95	-	1/4"BSP	1/8"BSP	10.5	53	52
3431H11-BM1S	95	-	3/8"BSP	1/8"BSP	10.5	53	55
3431R11-BM1S	95	-	3/8"BSP	1/8"BSP	10.5	53	55
4431H11-AA1S	134	14	1/2"BSP	1/8"BSP	8	60	77
4431R11-AA1S	134	14	1/2"BSP	1/8"BSP	8	60	77
6431H11-AB1S	206	34	3/4"BSP	1/8"BSP	-	81	100
6431R11-AB1S	206	146	3/4"BSP	1/8"BSP	-	81	100

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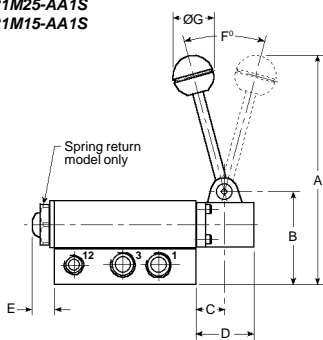
Preferred models

Model No	Description	Mass kg (lbs)	Symbol
4421B55-AA1S	1/2"BSP 4/2 Lever operated, 2 position positive	2.40 (5.29)	
4421M25-AA1S	1/2"BSP 4/2 Lever operated, 2 position, spring return	2.40 (5.29)	
4421M15-AA1S	1/2"BSP 4/2 Lever operated, 2 position, pilot air return	2.40 (5.29)	
4431D553AA1S	1/2"BSP 4/3 PHN Lever operated, 3 position positive	2.55 (5.62)	
4431E553AA1S	1/2"BSP 4/3 PRN Lever operated, 3 position positive	2.55 (5.62)	
4431H55-AA1S	1/2"BSP 4/3 PHN Lever operated, 3 position, spring centre	2.55 (5.62)	
4431R55-AA1S	1/2"BSP 4/3 PRN Lever operated, 3 position spring centre	2.55 (5.62)	

Installation dimensions mm

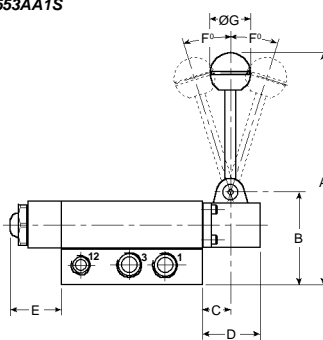
**4/2 Lever operated
2 position
1/2"**

4421B55-AA1S
4421M25-AA1S
4421M15-AA1S



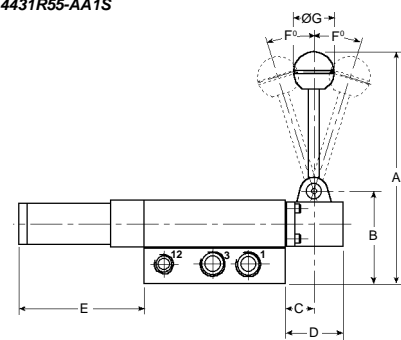
**4/3 Lever operated, 3 position
positive, PHN, PRN
1/2"**

4431D553AA1S
4431E553AA1S



**4/3 Lever operated
spring centre, PHN, PRN
1/2"**

4431H55-AA1S
4431R55-AA1S



Model No	A	B	C	D	E	F	G
4/2 Lever operated, 2 position positive							
4421B55-AA1S	210	86	20	42	8	30°	32
4421M25-AA1S	210	86	20	42	29	30°	32
4421M15-AA1S	210	86	20	42	8	30°	32
4/3 Lever operated, 3 position positive							
4431D553AA1S	210	86	20	42	29	17.5°	32
4431E553AA1S	210	86	20	42	29	17.5°	32
4/3 Lever operated, spring centre							
4431H55-AA1S	210	86	20	42	74	17.5°	32
4431R55-AA1S	210	86	20	42	74	17.5°	32

For basic valve dimensions see page 800.5

'FLUOSLIDE' 1/8", 1/4", 3/8" BSP 4/2 + 4/3 SEMI-ROTARY CONTROL VALVES

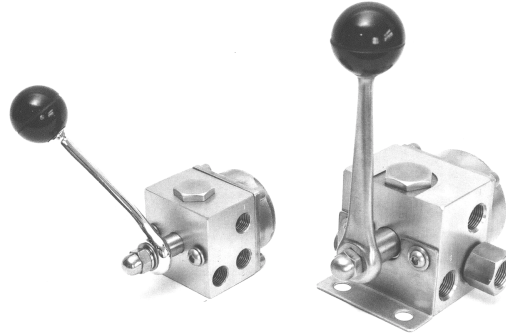
**HEAVY
DUTY
VALVES**

Manually operated

General description and benefits

A range of heavy duty 4 way 'Fluoslide' semi-rotary directional control valves in brass with lever or switch operation.

- Heavy duty.
- High flow.
- 2 and 3 positions available.



Operating fluids

Compressed air

Filtered and lubricated compressed air up to 10 bar (145 psi). ISO VG37 mineral oil (or equivalent) is recommended for use at normal ambient temperatures.

Technical data

Ports
1/8", 1/4", 3/8" BSP

Cv (Kv)
1/8" - 0.15 (2.3)
1/4" - 0.60 (9.0)
3/8" - 0.90 (13.5)

Working pressure
up to 10 bar (145 psi)

Valves for pressures up to 20 bar (300 psi) and for vacuum are also available - details on application

Working temperature
-20°C to +70°C (-4°F to +158°F)

Flow
at 5.5 bar (80 psi) to atmosphere

1/8" - 3.3 dm³/sec (7 SCFM)
1/4" - 14.0 dm³/sec (30 SCFM)
3/8" - 22.0 dm³/sec (47 SCFM)

Materials of construction

Body
Brass

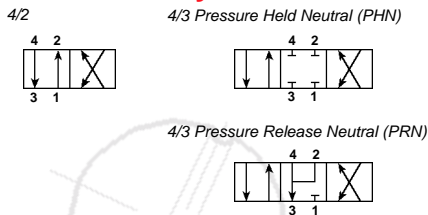
Slide carrier
Brass

Slide
Graphite filled PTFE

Springs
Stainless steel

Seals
Nitrile

Functional symbol



Model code

* 4 * 2 * * * * * 1 *

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫

① **Size**
1 = 1/8"
2 = 1/4"
3 = 3/8"

④ **Type**
2 = Semi-rotary slide

⑦ **Operator RH**
0 = Switch
5 = Hand (lever)

⑩ **Style**
B = BV
M = VM

② **Number of ports**
4 = 4

⑤ **Function**
B = Bi stable
D = Positive PHN
E = Positive PRN
H = Self centering PHN
M = Mono stable
R = Self centering PRN

⑧ **Accessories**
- = None
5 = Panel mounted

⑪ **Port type**
1 = BSP

③ **Number of positions**
2 = 2
3 = 3

⑥ **Operator LH**
0 = Switch
2 = Spring
5 = Hand (lever)

⑨ **Material**
B = Brass/nitrile

⑫ **Port style**
B = Body ported
P = With port block

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**HEAVY
DUTY
VALVES**

**'FLUOSLIDE' 1/8", 1/4", 3/8" BSP
4/2 + 4/3 SEMI-ROTARY CONTROL VALVES**

Manually operated (Lever), Manually operated (Switch)

Preferred models

4/2 Manually operated

Model No	Description	Mass kg (lbs)	Symbol
1422B555BM1P	1/8"BSP 4/2 Lever operated, 2 position positive	0.52 (1.15)	
1422B005BM1P	1/8"BSP 4/2 Switch operated, 2 position positive	0.52 (1.15)	
1422M255BM1P	1/8"BSP 4/2 Lever operated, spring return	0.52 (1.15)	
1422M205BM1P	1/8"BSP 4/2 Switch operated, spring return	0.52 (1.15)	
2422B555BB1B	1/4"BSP 4/2 Lever operated, 2 position positive	1.25 (2.76)	
2422B005BB1B	1/4"BSP 4/2 Switch operated, 2 position positive	1.25 (2.76)	
2422M255BB1B	1/4"BSP 4/2 Lever operated, spring return	1.25 (2.76)	
2422M205BB1B	1/4"BSP 4/2 Switch operated, spring return	1.25 (2.76)	
3422B555BB1B	3/8"BSP 4/2 Lever operated, 2 position positive	2.25 (4.96)	
3422M255BB1B	3/8"BSP 4/2 Lever operated, spring return	2.25 (4.96)	

All valves are supplied complete with button head screws and washers for panel mounting.

'FLUOSLIDE' 1/8", 1/4", 3/8" BSP 4/2 + 4/3 SEMI-ROTARY CONTROL VALVES

Manually operated (Lever), Manually operated (Switch)

**HEAVY
DUTY
VALVES**

Preferred models

4/3 Manually operated

Model No	Description	Mass kg (lbs)	Symbol
1432D555BM1P	1/8"BSP 4/3 PHN Lever operated, 3 position positive	0.52 (1.15)	
1432D005BM1P	1/8"BSP 4/3 PHN Switch operated, 3 position positive	0.52 (1.15)	
1432E555BM1P	1/8"BSP 4/3 PRN Lever operated, 3 position positive	0.52 (1.15)	
1432E005BM1P	1/8"BSP 4/3 PRN Switch operated, 3 position positive	0.52 (1.15)	
1432H555BM1P	1/8"BSP 4/3 PHN Lever operated, 3 position spring centre	0.52 (1.15)	
1432H005BM1P	1/8"BSP 4/3 PHN Switch operated, 3 position spring centre	0.52 (1.15)	
1432R555BM1P	1/8"BSP 4/3 PRN Lever operated, 3 position spring centre	0.52 (1.15)	
1432R005BM1P	1/8"BSP 4/3 PRN Switch operated, 3 position spring centre	0.52 (1.15)	
2432D555BB1B	1/4"BSP 4/3 PHN Lever operated, 3 position positive	1.25 (2.76)	
2432D005BB1B	1/4"BSP 4/3 PHN Switch operated, 3 position positive	1.25 (2.76)	
2432E555BB1B	1/4"BSP 4/3 PRN Lever operated, 3 position positive	1.25 (2.76)	
2432E005BB1B	1/4"BSP 4/3 PRN Switch operated, 3 position positive	1.25 (2.76)	
2432H555BB1B	1/4"BSP 4/3 PHN Lever operated, 3 position spring centre	1.25 (2.76)	
2432R555BB1B	1/4"BSP 4/3 PRN Lever operated, 3 position spring centre	1.25 (2.76)	
3432D555BB1B	3/8"BSP 4/3 PHN Lever operated, 3 position positive	2.25 (4.96)	
3432E555BB1B	3/8"BSP 4/3 PRN Lever operated, 3 position positive	2.25 (4.96)	
3432H555BB1B	3/8"BSP 4/3 PHN Lever operated, 3 position spring centre	2.25 (4.96)	
3432R555BB1B	3/8"BSP 4/3 PRN Lever operated, 3 position spring centre	2.25 (4.96)	

All valves are supplied complete with button head screws and washers for panel mounting.

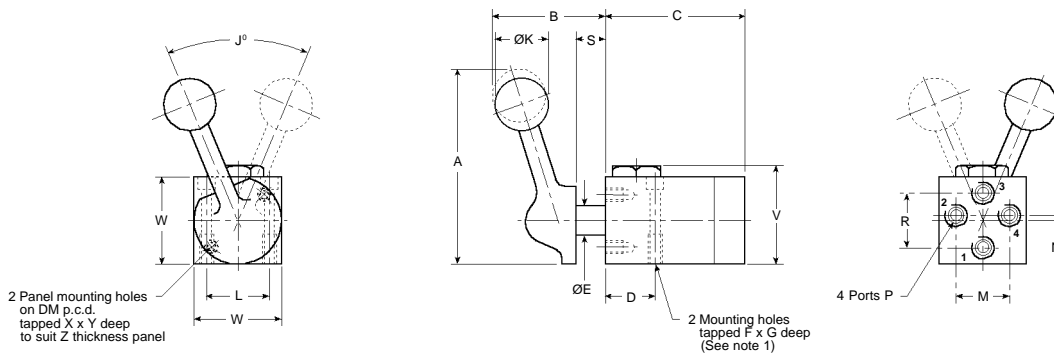
HEAVY DUTY VALVES

'FLUOSLIDE' 1/8", 1/4", 3/8" BSP 4/2 + 4/3 SEMI-ROTARY CONTROL VALVES Manually operated (Lever), Manually operated (Switch)

Installation dimensions mm

4/2 Lever operated, 2 position positive. Lever operated, spring return 1/8"

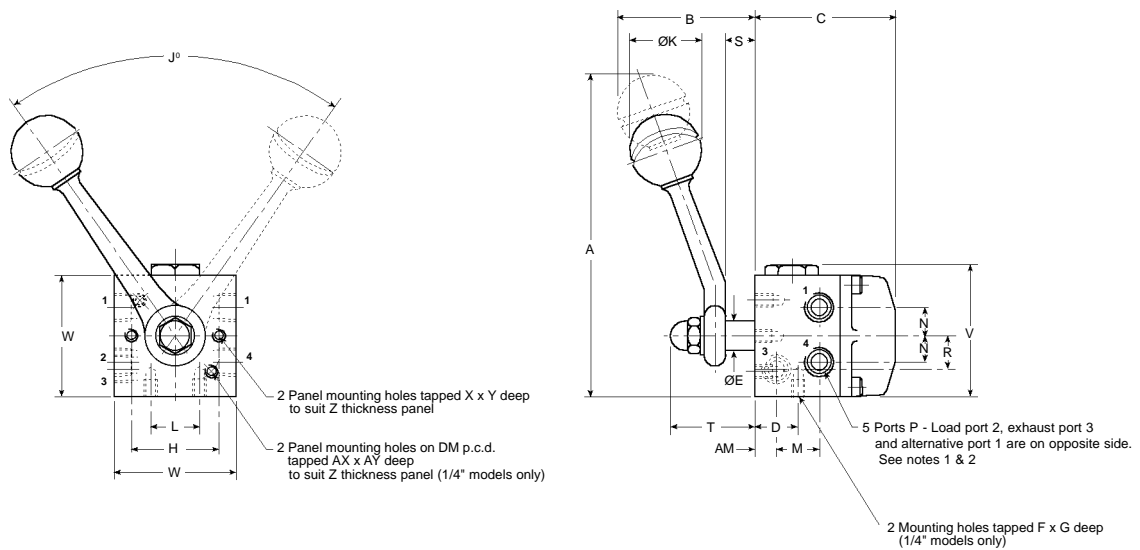
1422B555BM1P
1422M255BM1P



NOTES: (1) Mounting holes are designed to accept M5 cap screws from underside or M4 through cap screws.
(2) All models are supplied complete with panel mounting button head screws and washers

4/2 Lever operated, 2 position positive. Lever operated, spring return 1/4", 3/8"

2422B555BB1B
2422M255BB1B
3422B555BB1B
3422M255BB1B



NOTES: (1) Port 2 and alternative port 1 are on opposite side - same dimensional positions as ports 4 and 1 respectively
(2) Port 3 is on opposite side (reference dimensions R and AM)
(3) All models are supplied complete with panel mounting button head screws and washers

Model No	A	B	C	D	E	F	G	H	J	K	L	M	AM	N	P	R	S	T	V	W	X	Y	AX	AY	Z	DM
1422B555BM1P	77.5	47	58	20	10	M5	12	-	45°	19	25	21.5	-	2	1/8"BSP	22	12	-	41	35	M5	10	-	-	6	30
1422M255BM1P	77.5	47	58	20	10	M5	12	-	45°	19	25	21.5	-	2	1/8"BSP	22	12	-	41	35	M5	10	-	-	6	30
2422B555BB1B	143	63.5	63	19	13	M6	12	38	69.5°	32	25	19	9.5	12	1/4"BSP	15	12.7	38	58.3	54	M6	16	M5	10	6	44.4
2422M255BB1B	143	63.5	63	19	13	M6	12	38	69.5°	32	25	19	9.5	12	1/4"BSP	15	12.7	38	58.3	54	M6	16	M5	10	6	44.4
3422B555BB1B	178	70	79	-	17.5	-	-	47.6	69.5°	38	-	23	13	15	3/8"BSP	20	19	46	71	67	M6	16	-	-	6	-
3422M255BB1B	178	70	79	-	17.5	-	-	47.6	69.5°	38	-	23	13	15	3/8"BSP	20	19	46	71	67	M6	16	-	-	6	-

For dimensional details of switch operated models see page 800.16. For dimensional details of foot mounting bracket for 1/4" models see page 800.16

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'FLUOSLIDE' 1/8", 1/4", 3/8" BSP 4/2 + 4/3 SEMI-ROTARY CONTROL VALVES

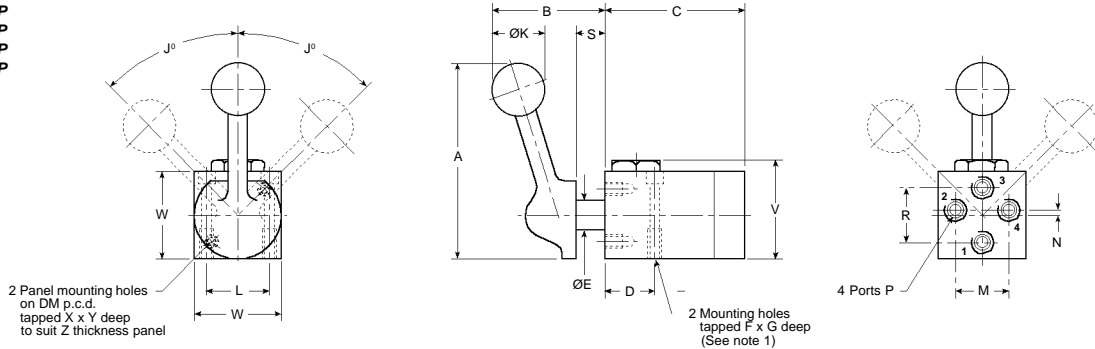
**HEAVY
DUTY
VALVES**

Manually operated (Lever), Manually operated (Switch)

Installation dimensions mm

4/3 Lever operated, 3 position positive, PHN, PRN. Lever operated, 3 position spring centre, PHN, PRN 1/8"

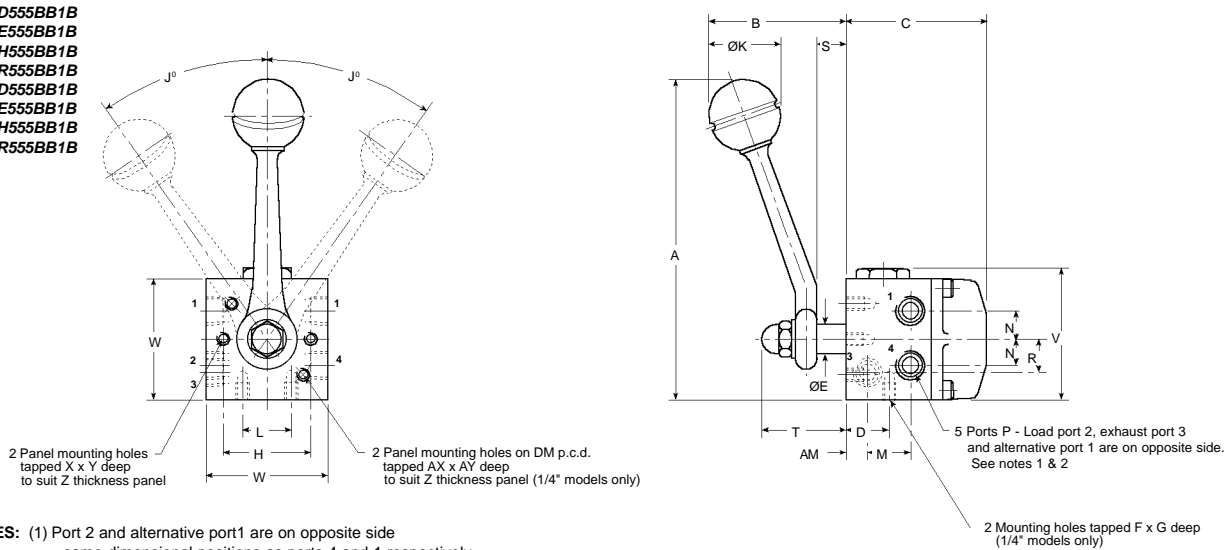
1432D555BM1P
1432E555BM1P
1432H555BM1P
1432R555BM1P



NOTES: (1) Mounting holes are designed to accept M5 cap screws from underside or M4 through cap screws.
(2) All models are supplied complete with panel mounting button head screws and washers

4/3 Lever operated, 3 position positive, PHN, PRN. Lever operated, 3 position spring centre, PHN, PRN 1/4", 3/8"

2432D555BB1B
2432E555BB1B
2432H555BB1B
2432R555BB1B
3432D555BB1B
3432E555BB1B
3432H555BB1B
3432R555BB1B



NOTES: (1) Port 2 and alternative port 1 are on opposite side
- same dimensional positions as ports 4 and 1 respectively
(2) Port 3 is on opposite side (reference dimensions R and AM)
(3) All models are supplied complete with panel mounting button head screws and washers

Model No	A	B	C	D	E	F	G	H	J	K	L	M	AM	N	P	R	S	T	V	W	X	Y	AX	AY	Z	DM
1432D555BM1P	77.5	47	58	20	10	M5	12	-	45°	19	25	21.5	-	2	1/8"BSP	22	12	-	41	35	M5	10	-	-	6	30
1432E555BM1P	77.5	47	58	20	10	M5	12	-	45°	19	25	21.5	-	2	1/8"BSP	22	12	-	41	35	M5	10	-	-	6	30
1432H555BM1P	77.5	47	58	20	10	M5	12	-	45°	19	25	21.5	-	2	1/8"BSP	22	12	-	41	35	M5	10	-	-	6	30
1432R555BM1P	77.5	47	58	20	10	M5	12	-	45°	19	25	21.5	-	2	1/8"BSP	22	12	-	41	35	M5	10	-	-	6	30
2432D555BB1B	143	63.5	63	19	13	M6	12	38	69.5°	32	25	19	9.5	12	1/4"BSP	15	12.7	38	58.3	54	M6	16	M5	10	6	44.4
2432E555BB1B	143	63.5	63	19	13	M6	12	38	69.5°	32	25	19	9.5	12	1/4"BSP	15	12.7	38	58.3	54	M6	16	M5	10	6	44.4
2432H555BB1B	143	63.5	63	19	13	M6	12	38	69.5°	32	25	19	9.5	12	1/4"BSP	15	12.7	38	58.3	54	M6	16	M5	10	6	44.4
2432R555BB1B	143	63.5	63	19	13	M6	12	38	69.5°	32	25	19	9.5	12	1/4"BSP	15	12.7	38	58.3	54	M6	16	M5	10	6	44.4
3432D555BB1B	178	70	79	-	17.5	-	-	47.6	69.5°	38	-	23	13	15	3/8"BSP	20	19	46	71	67	M6	16	-	-	6	-
3432E555BB1B	178	70	79	-	17.5	-	-	47.6	69.5°	38	-	23	13	15	3/8"BSP	20	19	46	71	67	M6	16	-	-	6	-
3432H555BB1B	178	70	79	-	17.5	-	-	47.6	69.5°	38	-	23	13	15	3/8"BSP	20	19	46	71	67	M6	16	-	-	6	-
3432R555BB1B	178	70	79	-	17.5	-	-	47.6	69.5°	38	-	23	13	15	3/8"BSP	20	19	46	71	67	M6	16	-	-	6	-

For dimensional details of switch operated models see page 800.16.
For dimensional details of foot mounting bracket for 1/4" models see page 800.16

**MIDLAND
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800.15

HEAVY DUTY VALVES

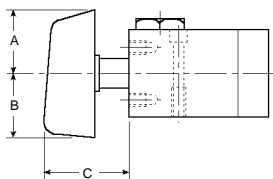
'FLUOSLIDE' 1/8", 1/4", 3/8" BSP 4/2 + 4/3 SEMI-ROTARY CONTROL VALVES

Manually operated (Lever), Manually operated (Switch)

Installation dimensions mm

4/2 Switch operated, 2 position positive
Switch operated, spring return
4/3 Switch operated, 3 position positive, PHN, PRN
Switch operated, spring centre, PHN, PRN
1/8"

1422B005BM1P
1422M005BM1P
1432D005BM1P
1432E005BM1P
1432H005BM1P
1432R005BM1P

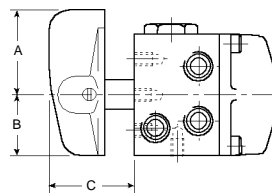


Model No	A	B	C
1422B005BM1P	25.5	25.5	36
1422M005BM1P	25.5	25.5	36
1432D005BM1P	25.5	25.5	36
1432E005BM1P	25.5	25.5	36
1432H005BM1P	25.5	25.5	36
1432R005BM1P	25.5	25.5	36

All basic dimensions as for lever operated models shown on pages 800.14 and 800.15

4/2 Switch operated, 2 position positive
Switch operated, spring return
4/3 Switch operated, 3 position positive, PHN, PRN
1/4"

2422B005BB1B
2422M005BB1B
2432D005BB1B
2432E005BB1B

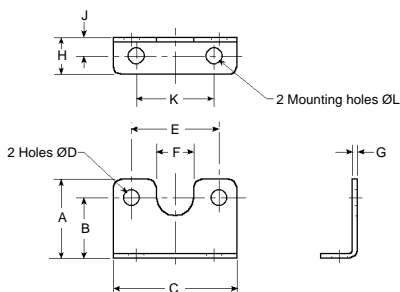


Model No	A	B	C
2422B005BB1B	30	40	38
2422M005BB1B	30	40	38
2432D005BB1B	30	40	38
2432E005BB1B	30	40	38

All basic dimensions as for lever operated models shown on pages 800.14 and 800.15

Foot mounting bracket for 1/4" valves (all models)

BV270/1-2



Model No	A	B	C	D	E	F	G	H	J	K	L
BV270/1-2	35	27	54	6.35	38.1	16	2	16	8	34.13	6.35