

### Features:

- Compact construction.
- High efficiency.
- Parallel circuit.
- Wide range of positioners.
- Carry over.
- Handle shift operation.
- NBR (BUNA-N) seal (Standard).
- FBR (Viton) seal (option).

### General Specifications

Series		MB3	MB4	MB5
Max flow rate	L/min	45	60	80
	gpm	12	16	21.3
Max operating pressure	bar	315		
	psi	4600		
Max back pressure	bar	25		
	psi	360		
Fluid temperature range with NBR(BUNA-N) seal	°C	- 20 ~ 80		
	°F	- 4 ~ 176		
Fluid temperature range with FBR(VITON) seal	°C	- 20 ~ 100		
	°F	- 4 ~ 212		
Ambient temperature range	°C	- 20 ~ 60		
	°F	- 4 ~ 140		
Oil viscosity (operating range)	mm <sup>2</sup> /s	15 ~ 75		
	cSt	15 ~ 75		
Oil filtration	μ	<30		
Number of Spools		1~6		



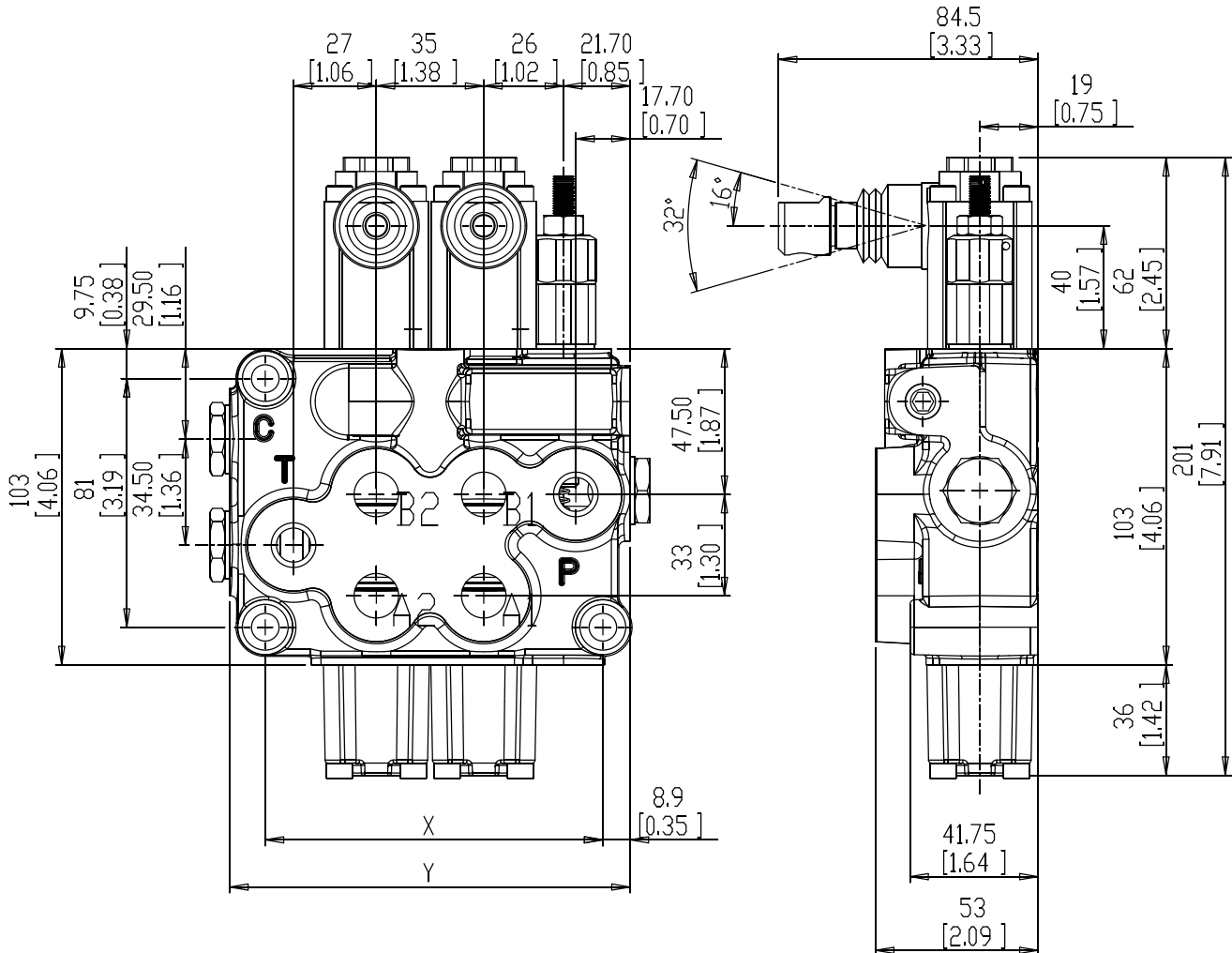
Weight	MB3/1	MB3/2	MB3/3	MB3/4	MB3/5	MB3/6
kg	2.7	4.1	5.7	7.2	8.7	10.2
LBS	6.0	9.1	12.7	16.0	19.3	22.7

Weight	MB4/1	MB4/2	MB4/3	MB4/4	MB4/5	MB4/6
kg	4	5.1	6.6	8.2	9.7	11.2
LBS	8.9	11.3	14.7	18.2	21.6	24.9

Weight	MB5/1	MB5/2	MB5/3	MB5/4	MB5/5	MB5/6
kg	6.1	8.8	11.4	14.2	16.7	19.4
LBS	13.6	19.6	25.3	31.6	37.1	43.1

### Dimension Data of MB3

mm(inch)



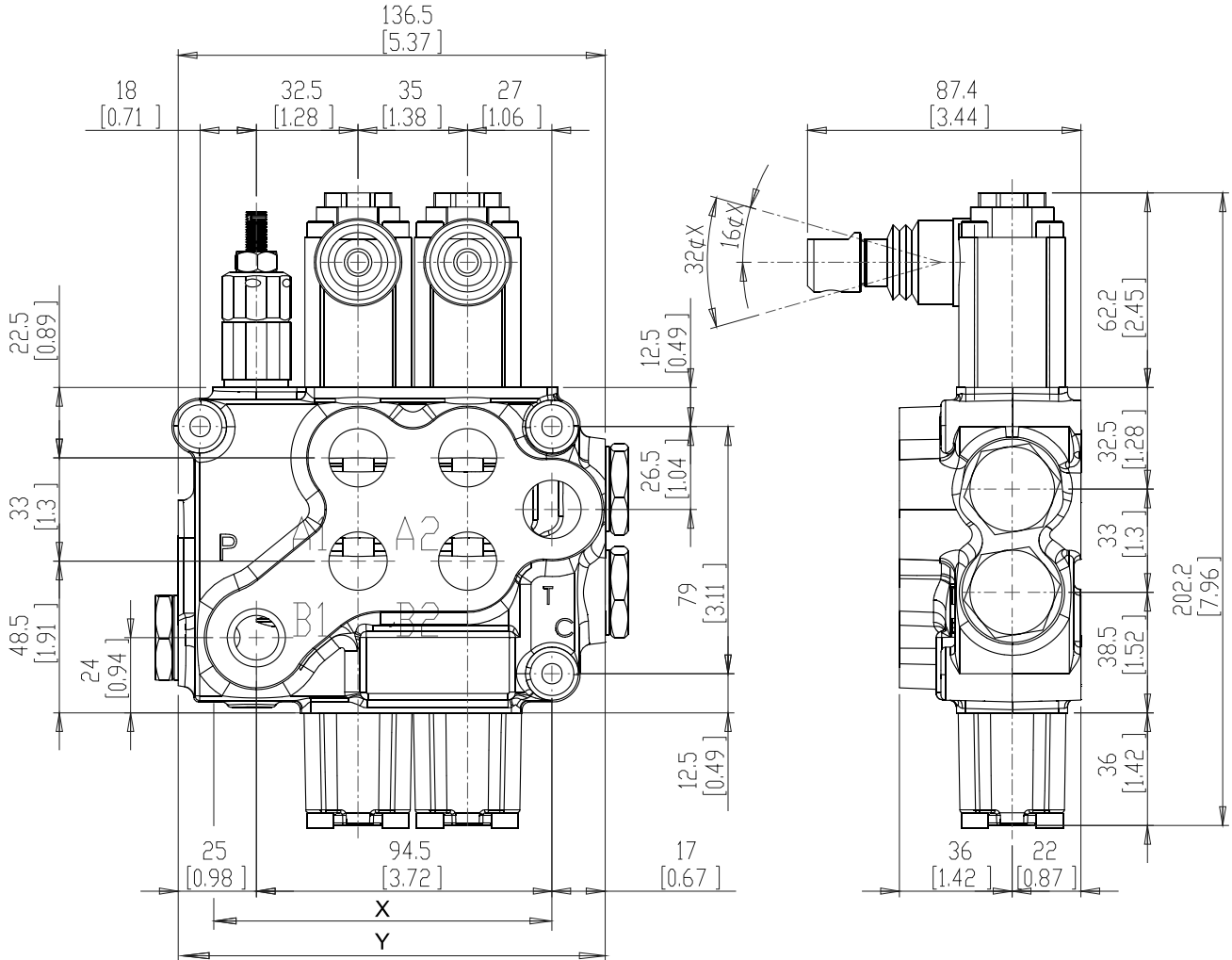
N of section	1	2	3	4	5	6
Dimension X(mm)	73	110	147	184	221	258
Dimension X(inch)	2.87	4.33	5.97	7.24	8.7	10.16
Dimension Y(mm)	93.5	130.5	165.5	202.5	239.5	276.5
Dimension Y(inch)	3.68	5.14	6.52	7.97	9.43	10.89

### Pos 3, Type of threads for MB3

Code	P	A / B	T / C (Carry over)
<b>G</b>	G3/8"	G3/8"	G3/8"
<b>U</b>	3/4-16UNF-2B(SAE8)	3/4-16UNF-2B(SAE8)	3/4-16UNF-2B(SAE8)
<b>M</b>	M18 x 1.5	M18 x 1.5	M18 x 1.5

### Dimension Data of MB4

mm(inch)



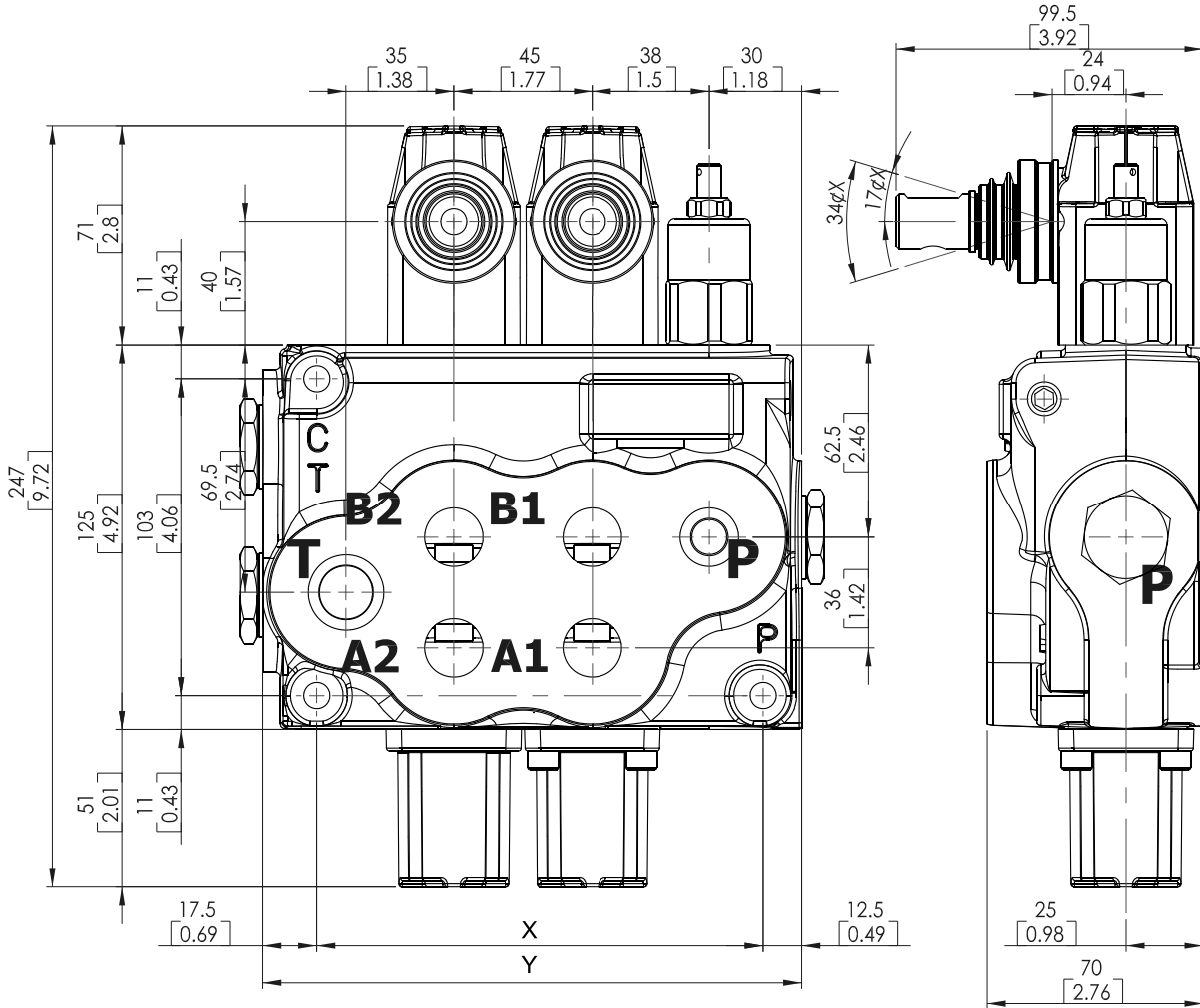
N of section	1	2	3	4	5	6
Dimension X(mm)	77.5	112.5	147.5	182.5	217.5	252.5
Dimension X(inch)	3.05	4.43	5.81	7.19	8.56	9.94
Dimension Y(mm)	101.5	136.5	171.5	206.5	241.5	276.5
Dimension Y(inch)	4	5.37	6.75	8.13	9.51	10.89

### Pos 3, Type of threads for MB4

Code	P	A / B	T / C (Carry over)
<b>G</b>	G1/2"	G1/2"	G1/2"
<b>U</b>	3/4-16UNF-2B(SAE8)	3/4-16UNF-2B(SAE8)	3/4-16UNF-2B(SAE8)
<b>M</b>	M18 x 1.5	M18 x 1.5	M18 x 1.5

**Dimension Data of MB5**

mm(inch)



N of section	1	2	3	4	5	6
Dimension X(mm)	100	145	190	235	280	325
Dimension X(inch)	3.94	5.71	7.48	9.25	11.02	12.8
Dimension Y(mm)	130	175	220	265	310	355
Dimension Y(inch)	5.12	6.89	8.66	10.43	12.21	13.98

**Pos 3, Type of threads for MB5**

Code	P	A / B	T / C (Carry over)
<b>G</b>	G1/2"	G1/2"	G3/4"
<b>U</b>	7/8-16UNF-2B(SAE10)	3/14-16UNF-2B(SAE8)	7/8-16UNF-2B(SAE10)
<b>M</b>	M18 x 1.5	M18 x 1.5	M22 x 1.5

### Pos 4, Adjustable direct relief valve setting

	Code	Standard Pressure setting bar(psi)	Range of adjustment bar(psi)
	07	70 (1000)	40~80 (580~1150)
	14	140 (2000)	63~200 (900~2900)
	21	210 (3000)	160~315 (2300~4600)
	SV	Blanking plug	

### Pos 5, Spool action

Code	Spool control
A	
B	
C	
D	

Symbol features	
	Initial hand lever position
	Spring return position of hand lever
	Hand lever in detent position

### Pos 6, Spool variation

Code	Spool type	Code	Spool type	Code	Spool type
1		5		8	
2		6		9	
3		7		10	
4					

### Pos 7, Level style

<p>Code: <b>L1</b></p>		<p>Code: <b>L3</b></p>	<p>Code: <b>L4</b></p>
<p>Code: <b>L2</b></p>		<p>Code: <b>L5</b></p>	<p>Code: <b>L6</b></p>

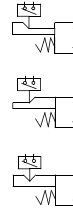
## Pos 8, Microswitch control

Code: **Omit** Without Microswitch

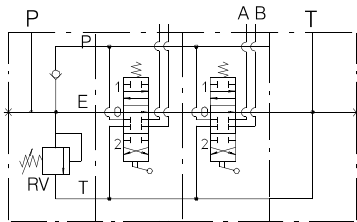
Code: **M1** Microswitch operated with spool in pos.1

Code: **M2** Microswitch operated with spool in pos.2

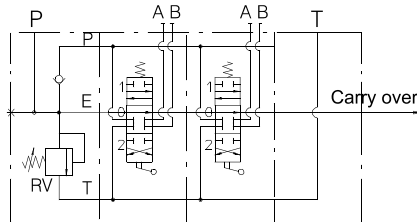
Code: **M3** Microswitch operated with spool in pos.1 and 2



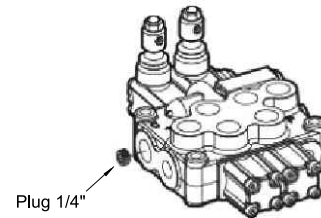
## Pos 9, Carry over



Code: **Omit** without carry over



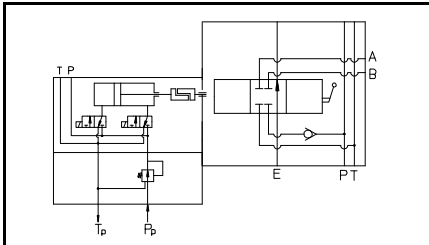
Code: **C** with carry over



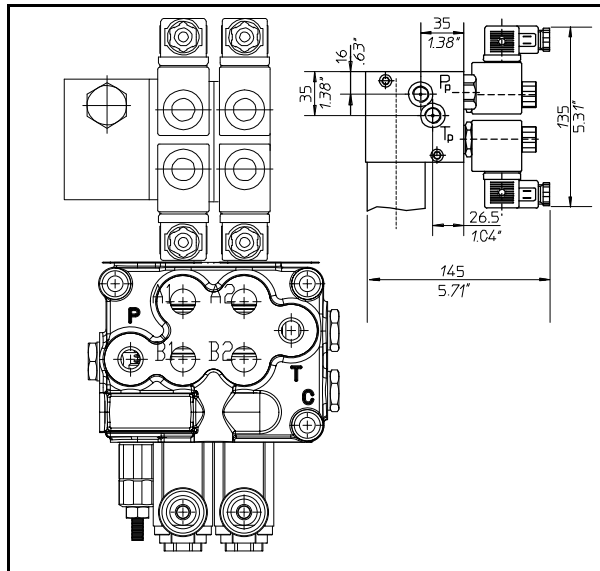
MB3, MB4 for plug  
MB5 for cartridge

## Pos 10, Electro control ON-OFF

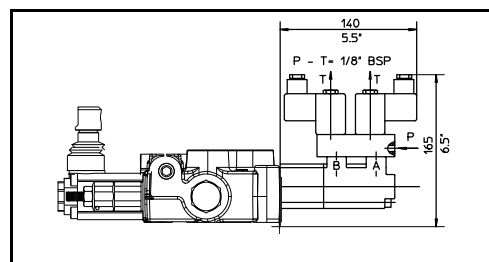
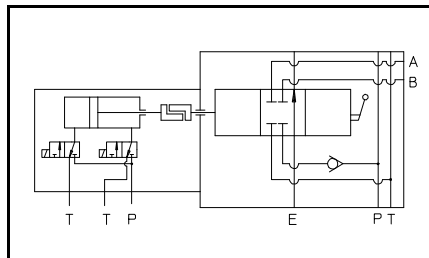
### Electro-hydraulic control



Hydraulic Control		Pneumatic Control	
Code	Voltage	Code	Voltage
<b>H24</b>	DC24V	<b>P24</b>	DC24V
<b>H12</b>	DC12V	<b>P12</b>	DC12V
<b>H22</b>	AC220V	<b>P22</b>	AC220V



### Electro-pneumatic control



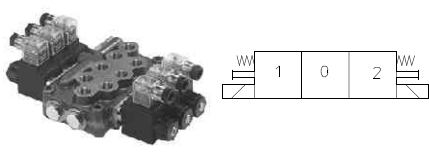


# Monobloc Directional Control Valve

## MB3/4/5 Series

Double-solenoid spring-centered control

Code	Voltage
S24	DC24V
S12	DC12V
S22	AC220V



### How to order

Body features			
1	2	3	4

Section features/Each		
5	6	7

Function (Option)			
8	9	10	11

Example

MB3/	3	G	21
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A	1	L1
---	---	----

M1	C	H24	V
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Pos 1	Type MB3/MB4/MB5
Pos 2	Number of spool
Pos 3	Type of thread
Pos 4	Relief valve setting

Pos 5	Spool action
Pos 6	Spool variation
Pos 7	Level style

Pos 8	Microswitch control
Pos 9	Carry over
Pos 10	Electro control ON-OFF
Pos 11	Seal

Omit	NBR seal (Standard)
V	Viton seal (Optional)