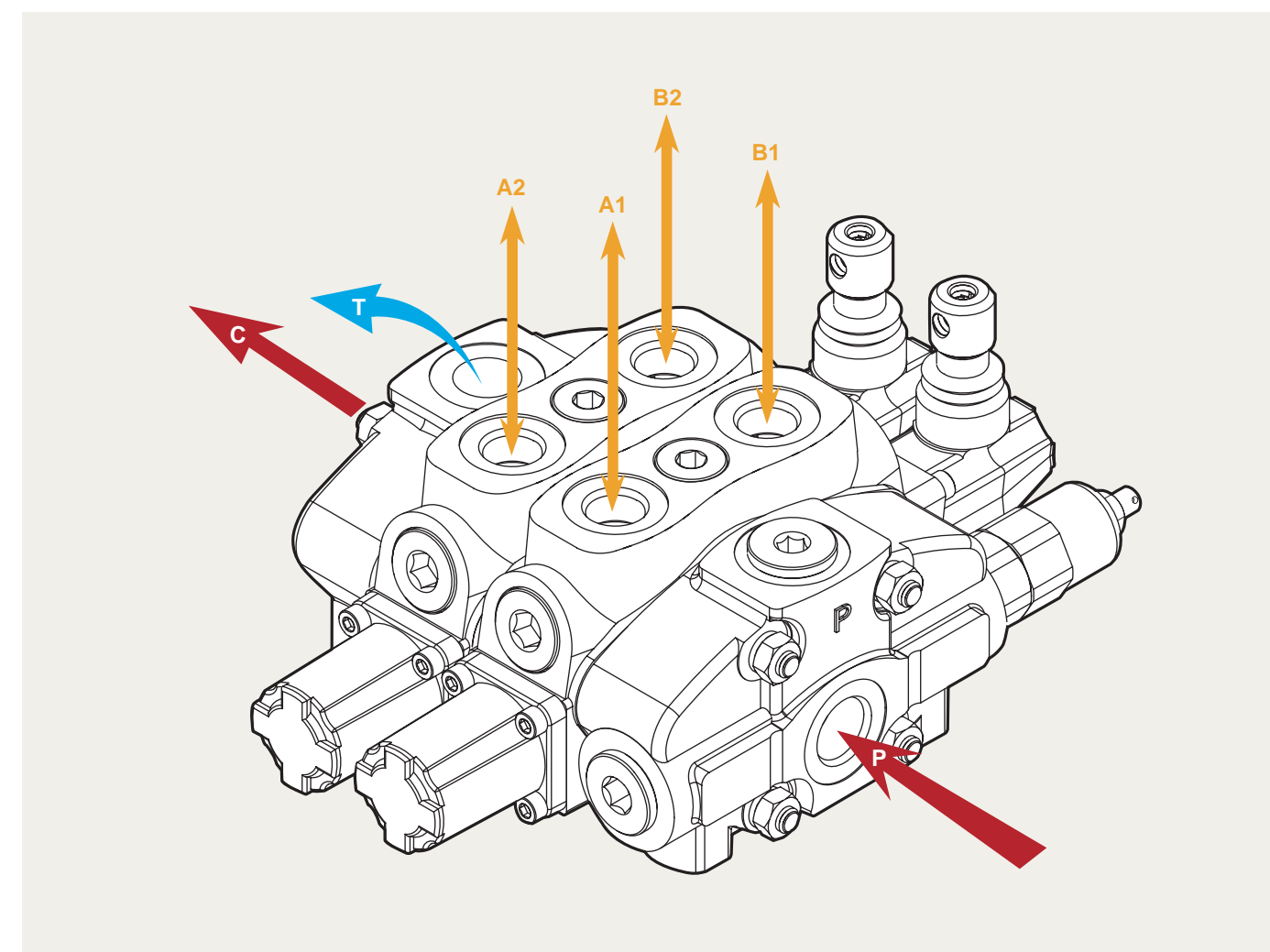


# S-4

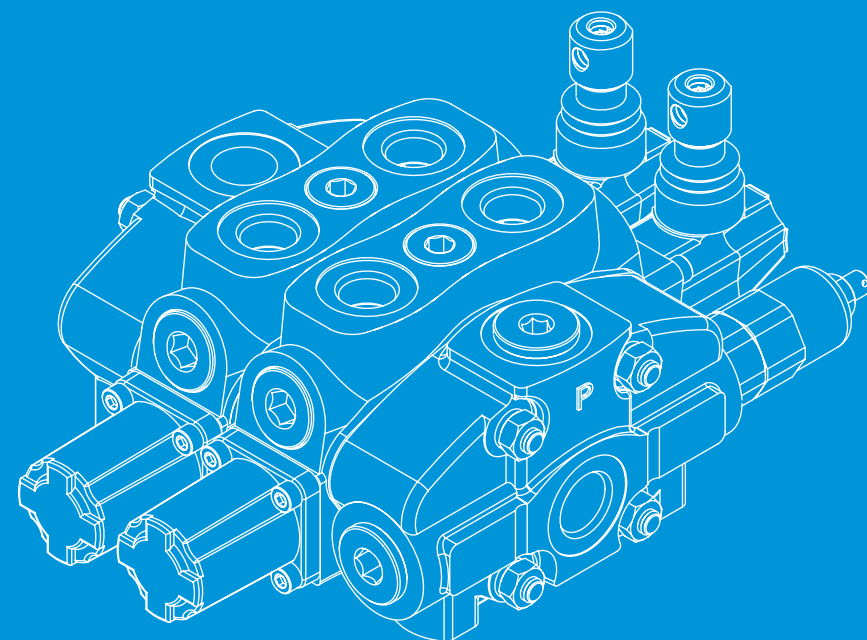
## Sectional Directional Control Valves



### S-4 Specifications

Nominal flow rate		80 l/min	21 US gpm
Operating pressure (maximum)	parallel or tandem circuit	315 bar	4600 psi
	series circuit	210 bar	3050 psi
Back pressure (maximum)	on outlet port T	25 bar	360 psi
Fluid temperature range	with NBR(BUNA N) seals	from 20° to 80°C	from 4° to 176° F
	with FPM(VITON) seal	from 20° to 100°C	from 4° to 212° F
Viscosity	operating range	from 15 to 75 mm <sup>2</sup> /s	from 15 to 75 cst
	min	12 mm <sup>2</sup> /s	12 cst
	max.	400 mm <sup>2</sup> /s	400 cst
Ambient temperature range		from 40° to 60°C	from 40° to 140° F

• All specifications, dimensions and design characteristics shown in this catalogue are subject to change without notice.



*Innovative Designs*  
*Professional Quality*  
*Customer Satisfaction !*

AVAILABLE SECTIONS FROM

1 TO 12

# S-4

## Sectional Directional Control Valves



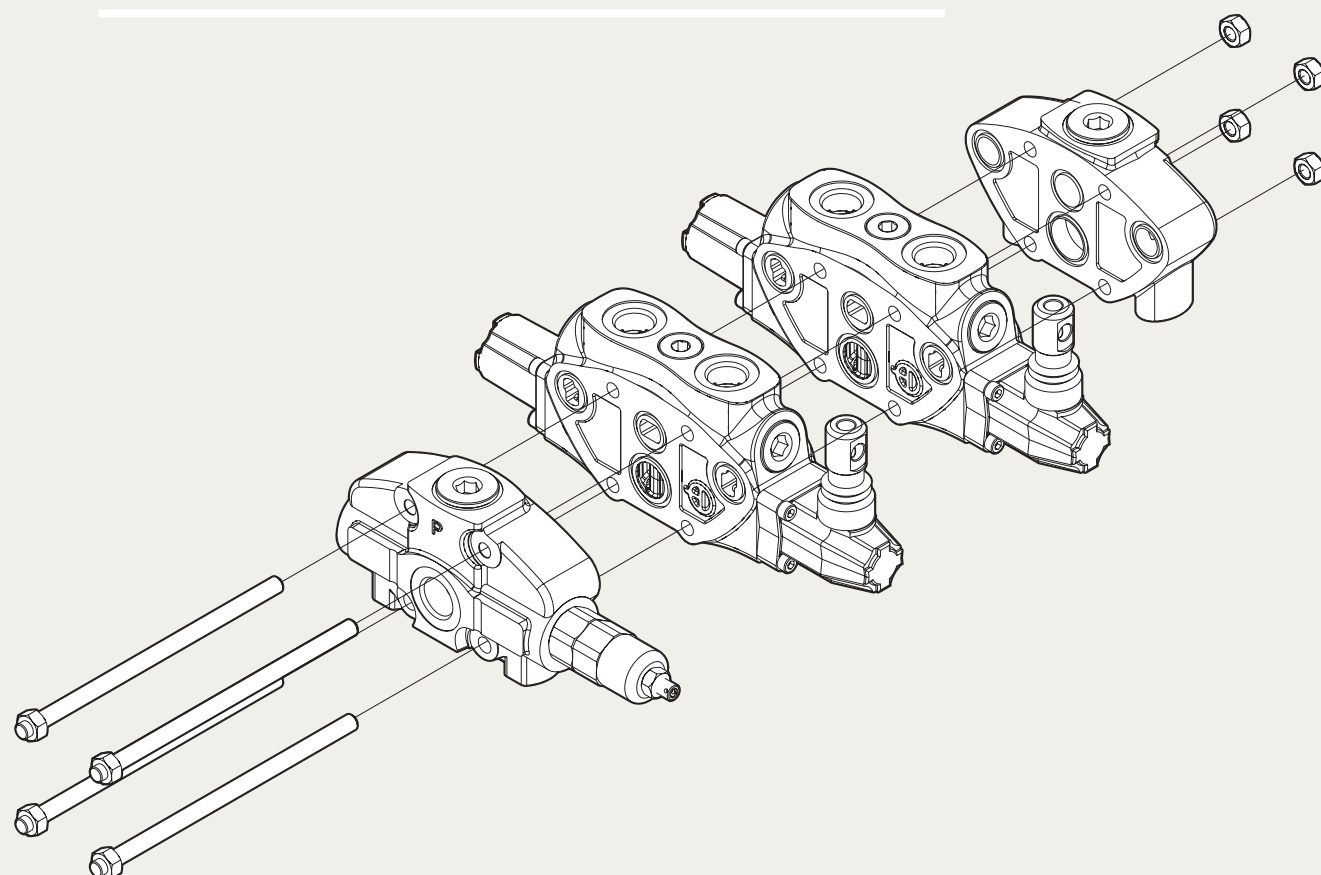
# S-4 Complete

## Sectional Directional Control Valves

### HOW TO ORDER FOR A COMPLETE ASSEMBLED VALVE

**S-4 / 2S - 3 / 18L / 28L / G-4-6 / M3**

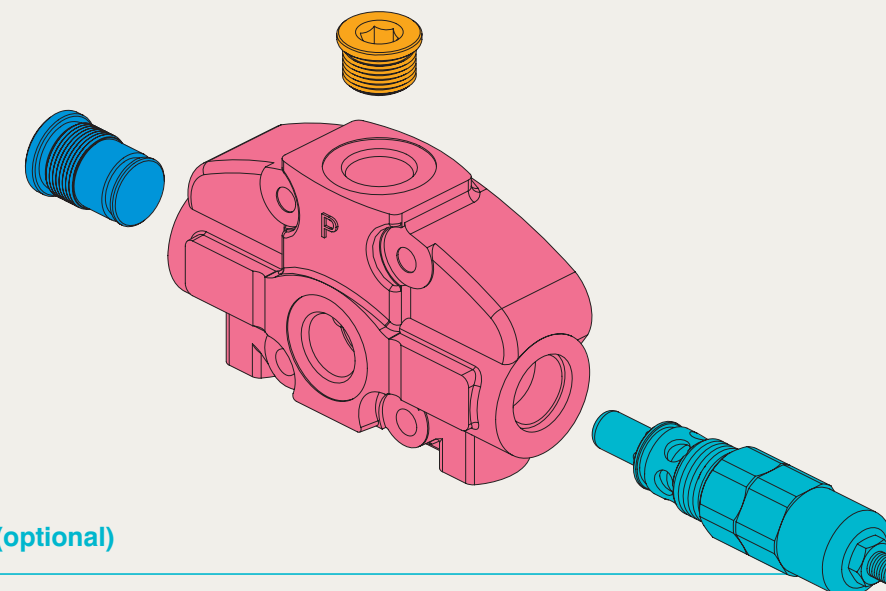
- 2S** No. of working section
- 3** Inlet cover with a main pressure relief valve
- 18L** 1st section (complete working section)
- 28L** Following section (complete working section)
- G-4-6** BSP ports
- M3** Outlet cover



# S-4 Inlet Section

## Sectional Directional Control Valves

**FP S-4 / SG-3 / G4**

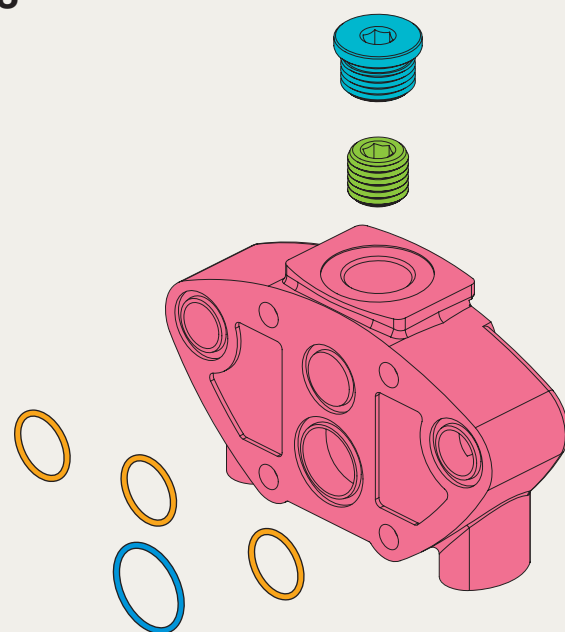


Inlet relief (optional)

Inlet Relief (optional)			
TYPE	CODE	DESCRIPTION	PAGE
SG 2	YLPSN43002	Range 80 to 160 bar / 1150 to 2300 psi , standard setting 125 bar / 1800 psi	P. 14
SG 3	YLPSN43003	Range 125 to 250 bar / 1800 to 3600 psi , standard setting 175 bar / 2500 psi	P. 14
SG 4	YLPSN43004	Range 200 to 315bar / 2900 to 4600 psi , standard setting 220 bar / 3200 psi Standard setting is referred to 10 l/min 2.6 US gpm flow.	P. 14
SV	YLPSN44000	Relief valve blanking plug	P. 14
XSG	YLX21000	Pilot operated pressure relief valve Range 25 to 315 bar/ 360 to 4600 psi, standard setting 125 bar/ 1800 psi	P. 14

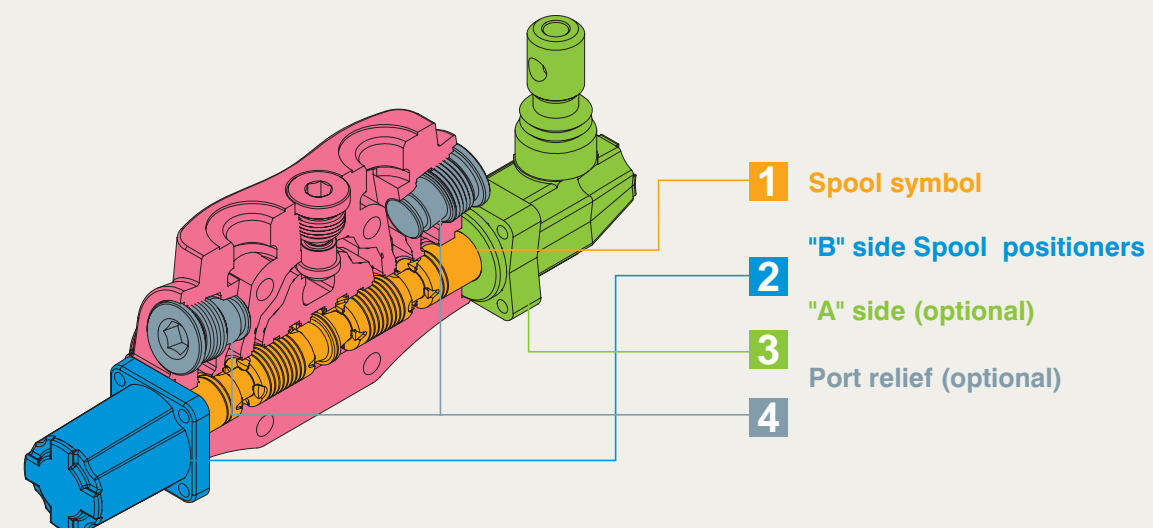
## S-4 Outlet Section Sectional Directional Control Valves

FT S-4 / G-6 / M3



## S-4 Working Section Sectional Directional Control Valves

EW S-4 / 1S / 1 8 L / P1(G3-100) / G-4



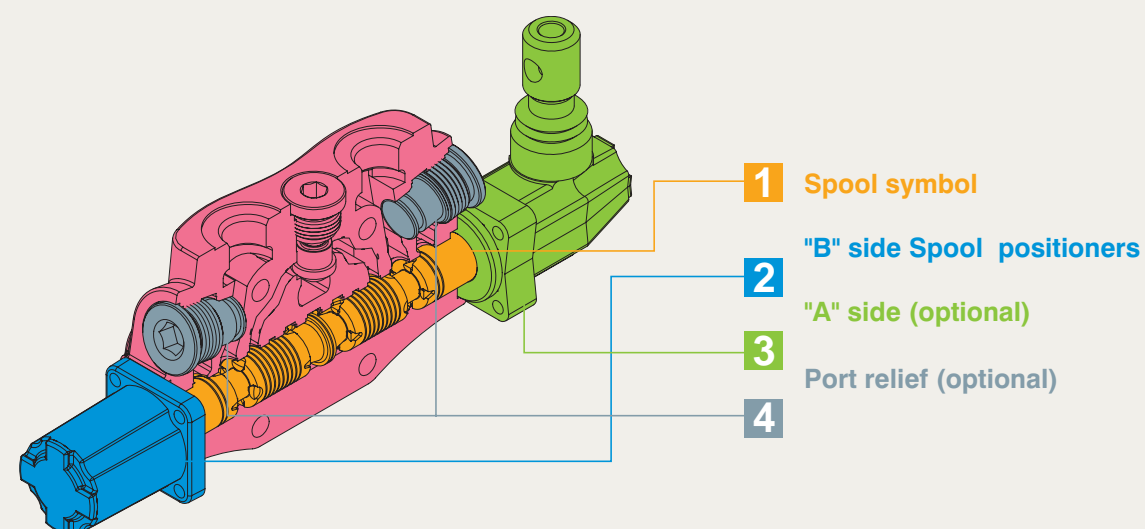
1: Spool Symbol			
TYPE	CODE	DESCRIPTION	PAGE
1	YLWSN42001	Double acting,3 positions,with A and B closed in neutral position	P. 15
1S	YLWSN42010	Double acting,3 positions,with A and B closed in neutral position, for series circuit	P. 18
2	YLWSN42002	Double acting,3 positions,with A and B open to tank in neutral position	P. 15
3	YLWSN42003	Single acting on A closed in neutral position, 3 positions, B plugged	P. 16
4	YLWSN42004	Single acting on B closed in neutral position, 3 positions, A plugged	P. 16
5	YLWSN42005	Double acting, 3 positions, with B open to Tank in neutral position	P. 17
6	YLWSN42006	Double acting, 3 positions, with A open to Tank in neutral position	P. 17
5PY	YLWSN43051	Double acting, 4 positions, floating circuit in 4th position with A, B open to Tank by pushing the lever	P. 19

# S-4 Working Section

## Sectional Directional Control Valves

EW S-4 / 1S / 1 8 L / P1(G3-100) / G-4

1 2 3 4



2: B Side Spool Positioners			
TYPE	CODE	DESCRIPTION	PAGE
6 1	YLWSN43061	Detent in pos. 1 0 2, without spring centered	P. 23
6 2	YLWSN43062	2 positions, detent in pos. 0 2, without spring centered	P. 23
6 3	YLWSN43063	2 positions, detent in pos. 1 0, without spring centered	P. 23
8D2	YLWSN43082	With spring return to neutral position and pin with M8 male thread for dual control	P. 23
8P	YLWSN43080	ON/OFF Pneumatic actuator	P. 24
8EP3	YLWSN44300	ON/OFF Electro Pneumatic actuator	P. 24
8MG1 (NO)	YLWSN43801	Microswitch kit operated in pos. 1 (Normally Open)	P. 27
8MG2 (NO)	YLWSN43802	Microswitch kit operated in pos. 2 (Normally Open)	P. 27
8MG3 (NO)	YLWSN43803	Microswitch kit operated in pos. 1&2 (Normally Open)	P. 27
MG (NO)	YLWSN43804	Microswitch with NO terminal	P. 27
8MG1 (NC)	YLWSN438011	Microswitch kit operated in pos. 1 (Normally Closed)	P. 27
8MG2 (NC)	YLWSN438021	Microswitch kit operated in pos. 2 (Normally Closed)	P. 27
8MG3 (NC)	YLWSN438031	Microswitch kit operated in pos. 1&2 (Normally Closed)	P. 27
MG (NC)	YLWSN438041	Microswitch with NC terminal	P. 27
8	YLWSN43008	With spring return to neutral position	P. 28
8 1	YLWSN44081	2 positions, with spring centered from pos. 1	P. 28
8 2	YLWSN44082	2 positions, with spring centered from pos. 2	P. 28
9 1	YLWSN43091	Detent in pos. 1, 2 with spring centered	P. 28
9 2	YLWSN43092	Detent in pos. 2 with spring centered	P. 28
9 3	YLWSN43093	Detent in pos. 1 with spring centered	P. 28

2: B Side Spool Positioners			
TYPE	CODE	DESCRIPTION	PAGE
8ED3+RV KE1R3	YLWSN43201	1S: ON/OFF Electro Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	P. 25
8ED3+RV KE2R3	YLWSN43202	2S: ON/OFF Electro Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	P. 25
8ED3+RV KE3R3	YLWSN43203	3S: ON/OFF Electro Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	P. 25
8ED3+RV KE4R3	YLWSN43204	4S: ON/OFF Electro Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	P. 25
8ED3+RV KE5R3	YLWSN43205	5S: ON/OFF Electro Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	P. 25
8ED3+RV KE6R3	YLWSN43206	6S: ON/OFF Electro Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	P. 25
8ED3+RV KE7R3	YLWSN43207	7S: ON/OFF Electro Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	P. 25
8ED3+RV KE8R3	YLWSN43208	8S: ON/OFF Electro Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	P. 25
8ED3+RV KE9R3	YLWSN43209	9S: ON/OFF Electro Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	P. 25
8ED3+RV KE10R3	YLWSN43210	10S: ON/OFF Electro Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	P. 25
8ED3+RV KE11R3	YLWSN43211	11S: ON/OFF Electro Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	P. 25
8ED3+RV KE12R3	YLWSN43212	12S: ON/OFF Electro Hydraulic control kit with pilot and drain line+backpressure valve (12/24 VDC)	P. 25
8ER3+RV KE1S0	YLWSN43401	1S: ON/OFF Electro hydraulic control kit with collector kit for external pilot and drain	P. 26
8ER3+RV KE2S0	YLWSN43402	2S: ON/OFF Electro hydraulic control kit with collector kit for external pilot and drain	P. 26
8ER3+RV KE3S0	YLWSN43403	3S: ON/OFF Electro hydraulic control kit with collector kit for external pilot and drain	P. 26
8ER3+RV KE4S0	YLWSN43404	4S: ON/OFF Electro hydraulic control kit with collector kit for external pilot and drain	P. 26
8ER3+RV KE5S0	YLWSN43405	5S: ON/OFF Electro hydraulic control kit with collector kit for external pilot and drain	P. 26
8ER3+RV KE6S0	YLWSN43406	6S: ON/OFF Electro hydraulic control kit with collector kit for external pilot and drain	P. 26
8ER3+RV KE7S0	YLWSN43407	7S: ON/OFF Electro hydraulic control kit with collector kit for external pilot and drain	P. 26
8ER3+RV KE8S0	YLWSN43408	8S: ON/OFF Electro hydraulic control kit with collector kit for external pilot and drain	P. 26
8ER3+RV KE9S0	YLWSN43409	9S: ON/OFF Electro hydraulic control kit with collector kit for external pilot and drain	P. 26
8ER3+RV KE10S0	YLWSN43410	10S: ON/OFF Electro hydraulic control kit with collector kit for external pilot and drain	P. 26
8ER3+RV KE11S0	YLWSN43411	11S: ON/OFF Electro hydraulic control kit with collector kit for external pilot and drain	P. 26
8ER3+RV KE12S0	YLWSN43412	12S: ON/OFF Electro hydraulic control kit with collector kit for external pilot and drain	P. 26

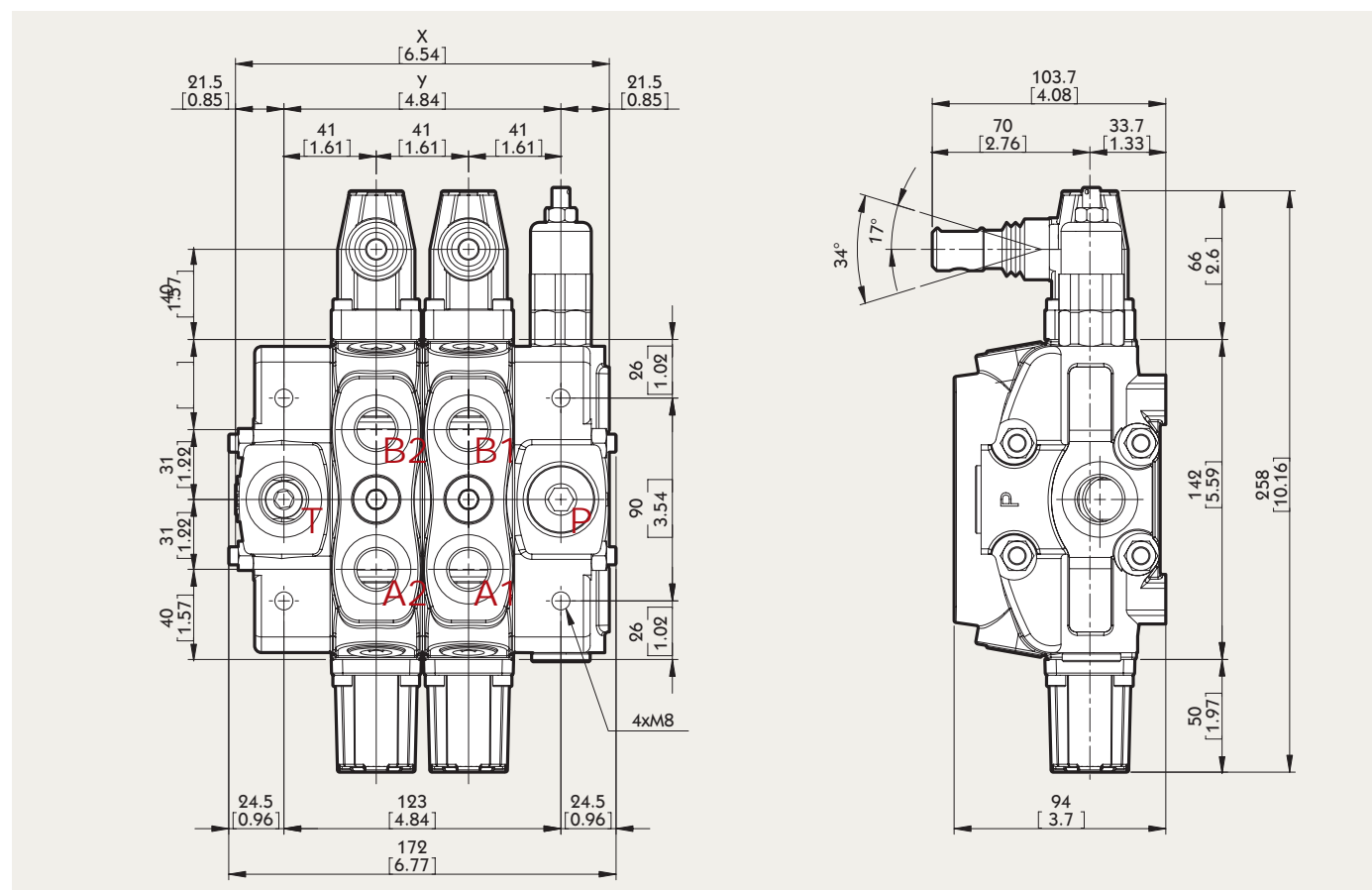
3: A Side (Optional)			
TYPE	CODE	DESCRIPTION	PAGE
L	YLWSN44000	Standard lever	P. 20
SLP	YLWSN44001	Without lever, with dust proof plate	P. 20
LCB	YLWSN44002	Joystick lever for 2 section operation	P. 21
TQ	YLWSN44003	Flexible cable connection	P. 22

4: Port Relief (Optional)			
TYPE	CODE	DESCRIPTION	PAGE
P (G2 63)	YLWSN45002	Anti shock valve, range 63 to 125 bar / form 900 to 1800 psi standard setting 63 bar / 900 psi	P. 29
P (G3 100)	YLWSN45003	Anti shock valve, range 100 to 250 bar / form 1450 to 3600 psi standard setting 100bar / 1450 psi	P. 29
P (G4 200)	YLWSN45004	Anti shock valve, range 200 to 315 bar / form 2900 to 4600 psi standard setting 200 bar / 2900 psi	P. 29
PM (G2 63)	YLWSN45005	Anti shock valve, range 63 to 125 bar / form 900 to 1800 psi standard setting 63 bar / 900 psi, for low setting	P. 29
U (G2 63)	YLWSN45012	Anti shock valve and Anti cavitation valve, range 63 to 125 bar / form 900 to 1800 psi standard setting 63 bar / 900 psi	P. 29
U (G3 100)	YLWSN45013	Anti shock valve and Anti cavitation valve, range 100 to 250 bar / form 1450 to 3600 psi standard setting 100 bar / 1450 psi	P. 29
U (G4 200)	YLWSN45014	Anti shock valve and Anti cavitation valve, range 200 to 315 bar / form 2900 to 4600 psi standard setting 200 bar / 2900 psi	P. 29
C	YLWSN45100	Anti cavitation	P. 29



# S-4 Dimensions

## Sectional Directional Control Valves



### Standard threads

Ports	Inlet P and carry-over C	A and B	Outlet T	Pilot ports	Hydraulic	Pneumatic
BSP	G1/2	G1/2	G3/4	BSP	G1/4	NPTF 1/8 27
UN UNF	7/8 14 UNF 2B (SAE 10)	3/4 16 UNF 2B (SAE 8)	7/8 14 UNF 2B (SAE 10)	UN UNF	9/16 18 UNF 2B (SAE 6)	NPTF 1/8 27
METRIC	M22x1.5	M22x1.5	M22x1.5	METRIC	G1/4	NPTF 1/8 27

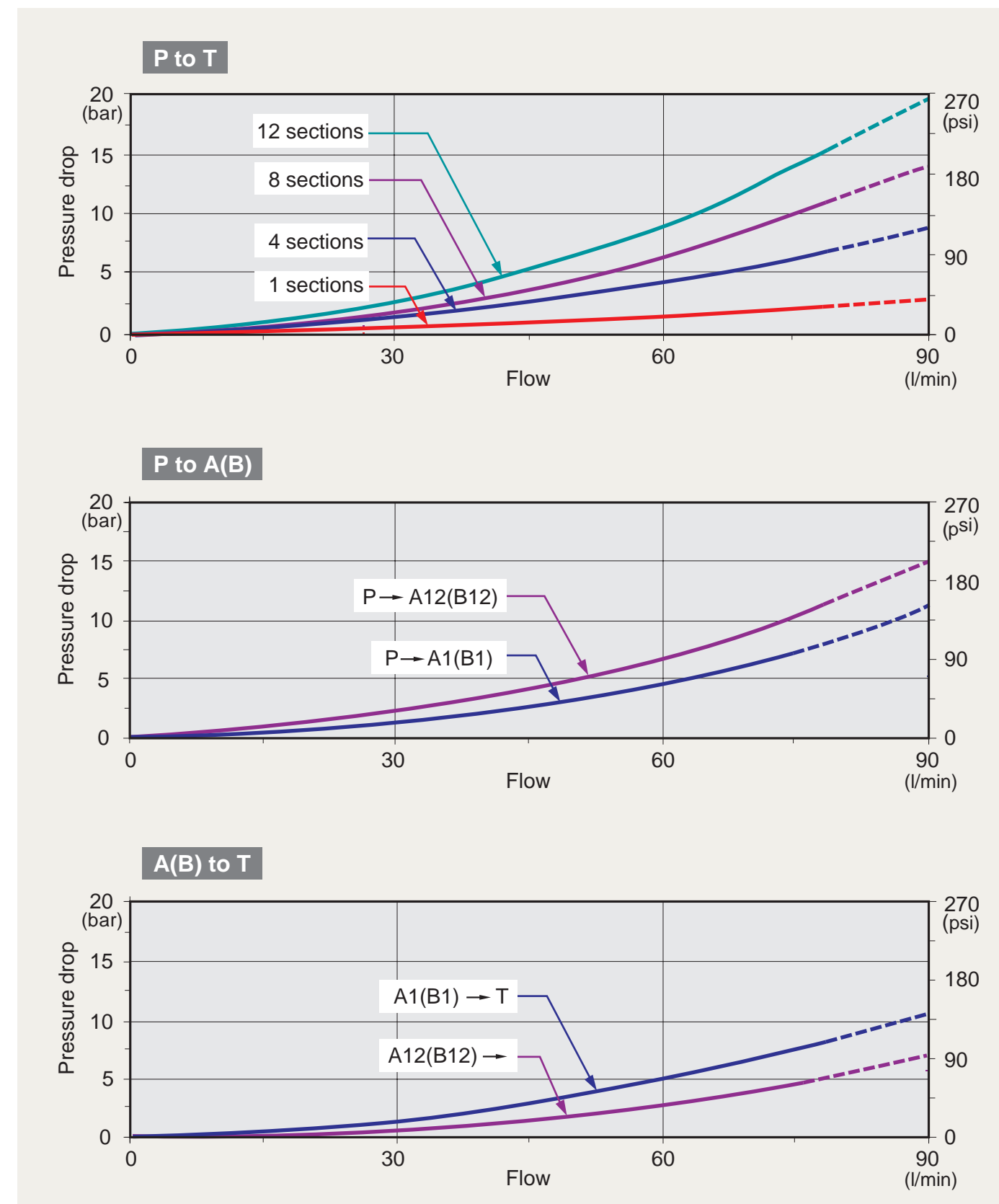
### Standard dimensions

TYPE	X		Y		TYPE	X		Y	
	mm	in	mm	in		mm	in	mm	in
SN4 /1S	128	5.04	82	3.23	SN4 /7S	374	14.72	328	12.91
SN4 /2S	169	6.65	123	4.84	SN4 /8S	415	16.33	369	14.52
SN4 /3S	210	8.27	164	6.46	SN4 /9S	456	17.94	410	16.13
SN4 /4S	251	9.88	205	8.07	SN4 /10S	497	19.55	451	17.74
SN4 /5S	292	11.5	246	9.69	SN4 /11S	538	21.16	492	19.35
SN4 /6S	333	13.11	267	11.3	SN4 /12S	579	22.77	533	20.96

• G-1/2 : G4    G-3/8 : G3    G-3/4 : G6  
 • SAE 8 : E8    SAE 10 : E10    SAE 12 : E12    SAE 16 : E16

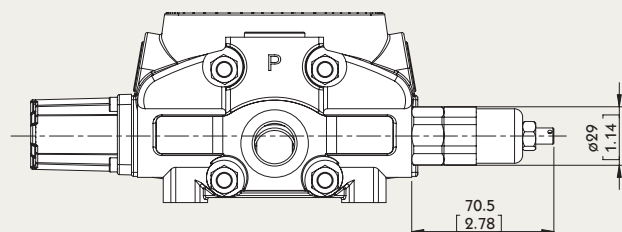
# S-4 Performance Curve Chart

## Sectional Directional Control Valves

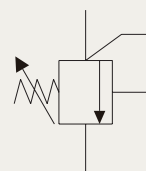


## S-4 Inlet Relief (Optional) Sectional Directional Control Valves

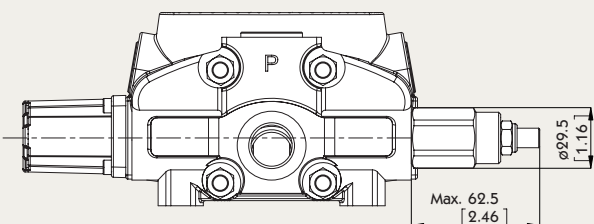
### Type SG



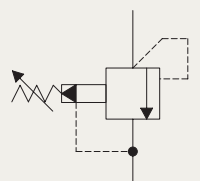
Direct pressure relief valve:



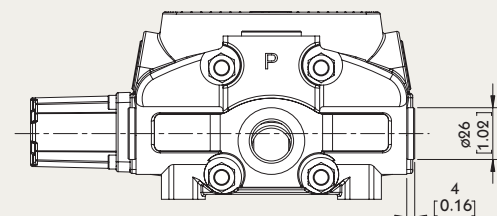
### Type XSG



Pilot operated pressure relief valve:



### Type SV

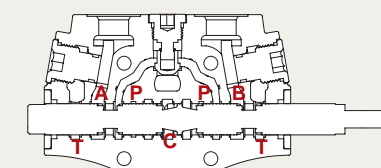


Relief valve blanking plug:

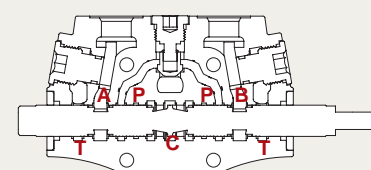
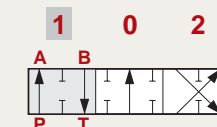


## S-4 spool Options Sectional Directional Control Valves

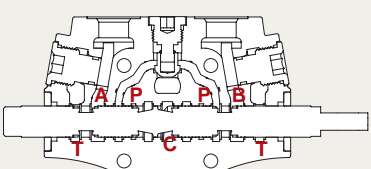
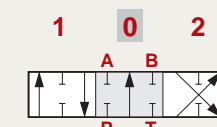
### TYPE 1



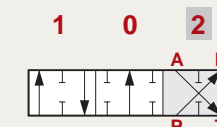
P → A  
B → T  
C closed



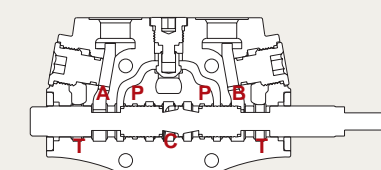
P & T & A & B closed  
C open



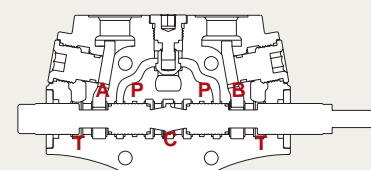
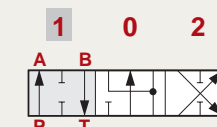
P → B  
A → T  
C closed



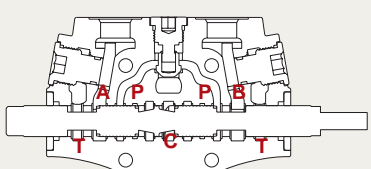
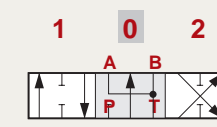
### TYPE 2



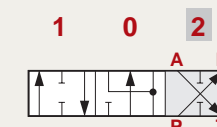
P → A  
B → T  
C closed



A & B → T  
P closed  
C open

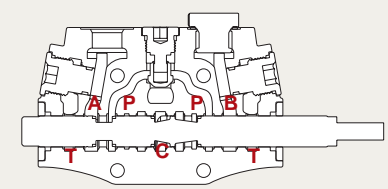
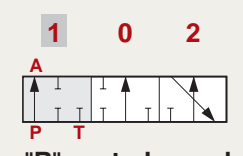
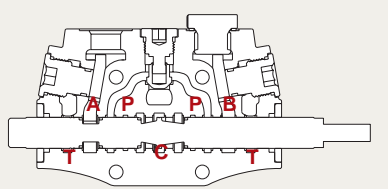
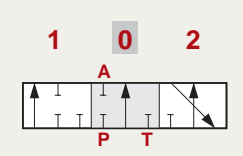
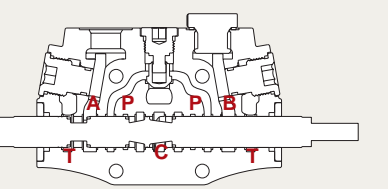
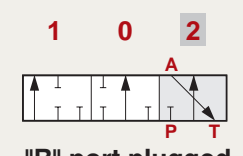


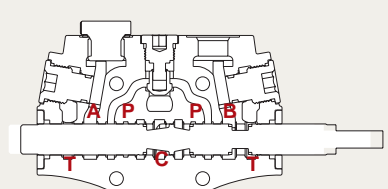
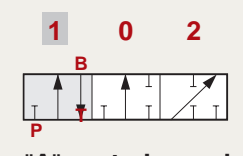
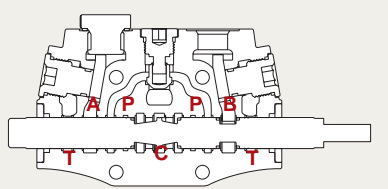
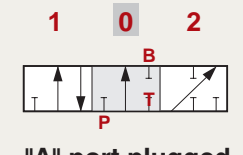
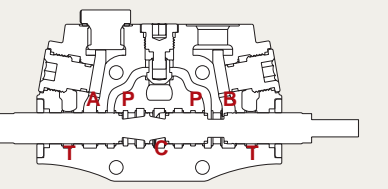
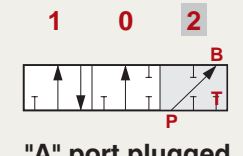
P → B  
A → T  
C closed



# S-4 Spool Options

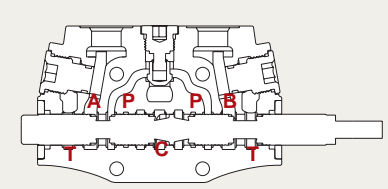
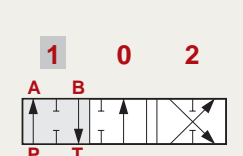
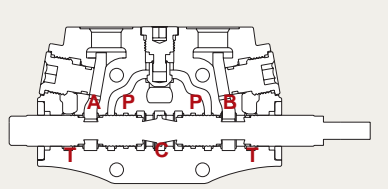
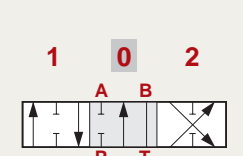
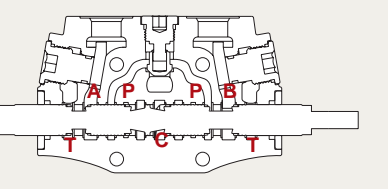
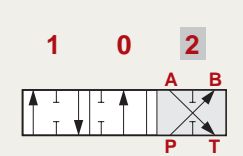
## Sectional Directional Control Valves

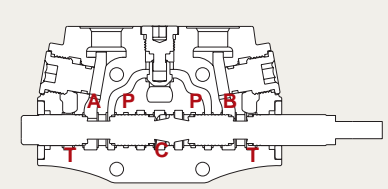
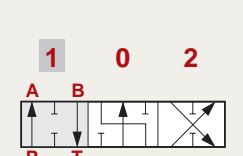
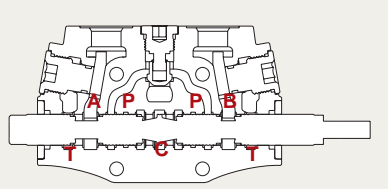
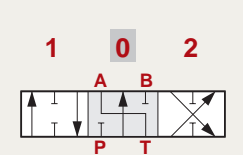
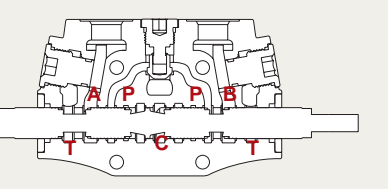
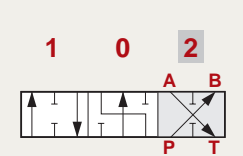
TYPE 3		
	<p><b>P</b> → <b>A</b></p> <p><b>C</b> closed</p>	<p>1 0 2</p>  <p>"B" port plugged</p>
	<p><b>P &amp; A</b> closed</p> <p><b>C</b> open</p>	<p>1 0 2</p>  <p>"B" port plugged</p>
	<p><b>A</b> → <b>T</b></p> <p><b>P</b> closed</p> <p><b>C</b> open</p>	<p>1 0 2</p>  <p>"B" port plugged</p>

TYPE 4		
	<p><b>B</b> → <b>T</b></p> <p><b>P</b> closed</p> <p><b>C</b> open</p>	<p>1 0 2</p>  <p>"A" port plugged</p>
	<p><b>P &amp; B</b> closed</p> <p><b>C</b> open</p>	<p>1 0 2</p>  <p>"A" port plugged</p>
	<p><b>P</b> → <b>B</b></p> <p><b>C</b> closed</p>	<p>1 0 2</p>  <p>"A" port plugged</p>

# S-4 Spool Options

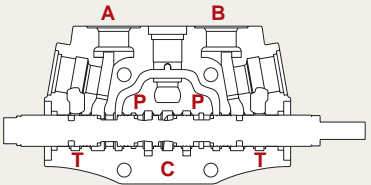
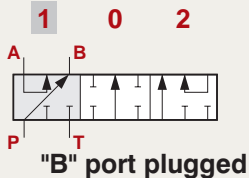
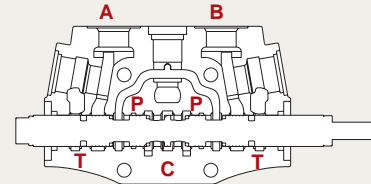
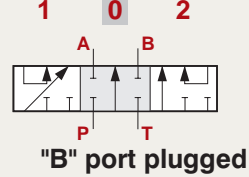
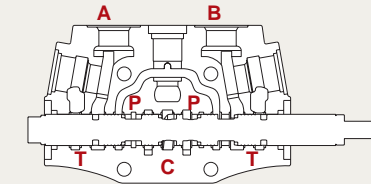
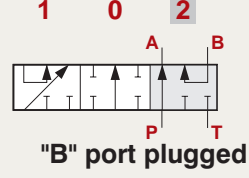
## Sectional Directional Control Valves

TYPE 5		
	<p><b>P</b> → <b>A</b></p> <p><b>B</b> → <b>T</b></p> <p><b>C</b> closed</p>	<p>1 0 2</p> 
	<p><b>B</b> → <b>T</b></p> <p><b>P &amp; A</b> closed</p> <p><b>C</b> open</p>	<p>1 0 2</p> 
	<p><b>P</b> → <b>B</b></p> <p><b>A</b> → <b>T</b></p> <p><b>C</b> closed</p>	<p>1 0 2</p> 

TYPE 6		
	<p><b>P</b> → <b>A</b></p> <p><b>B</b> → <b>T</b></p> <p><b>C</b> closed</p>	<p>1 0 2</p> 
	<p><b>B</b> → <b>T</b></p> <p><b>P &amp; A</b> closed</p> <p><b>C</b> open</p>	<p>1 0 2</p> 
	<p><b>P</b> → <b>B</b></p> <p><b>A</b> → <b>T</b></p> <p><b>C</b> closed</p>	<p>1 0 2</p> 

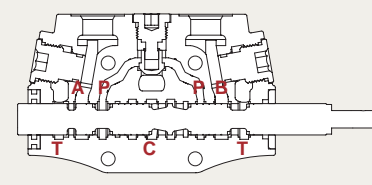
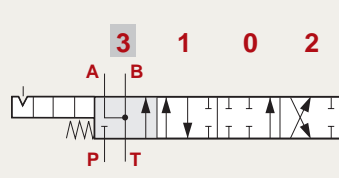
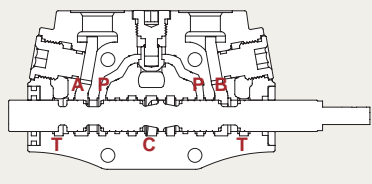
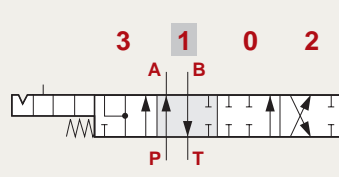
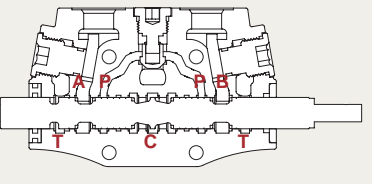
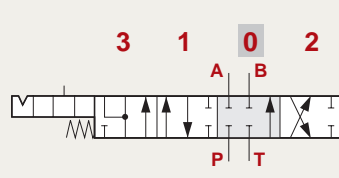
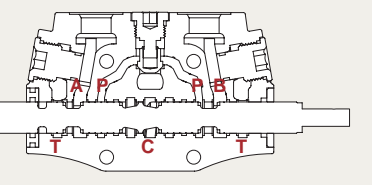
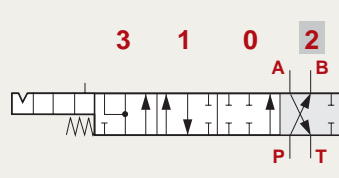
# S-4 Spool Options

## Sectional Directional Control Valves

TYPE 1S		
	P → A B → C T closed	 "B" port plugged
	P & A & B & T closed C open	 "B" port plugged
	P → B A → C T closed	 "B" port plugged

# S-4 Spool Options

## Sectional Directional Control Valves

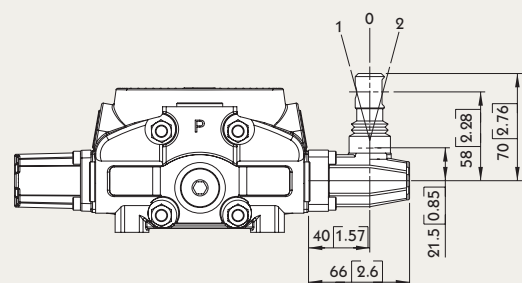
TYPE 5PY		
NOTE : WITH SPECIAL BODY AND SPECIAL POSITIONER.		
	A & B → T P closed C open	
	P → A B → T C closed	
	P & T & A & B closed C open	
	P → B A → T C closed	



# S-4 A Side

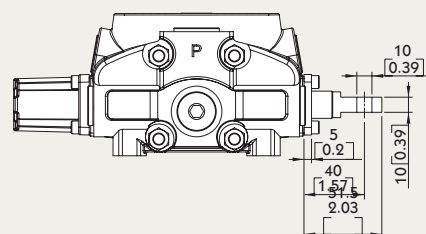
## Sectional Directional Control Valves

### Type L



**Type L:**  
STANDART LEVER KIT

### Type SLP

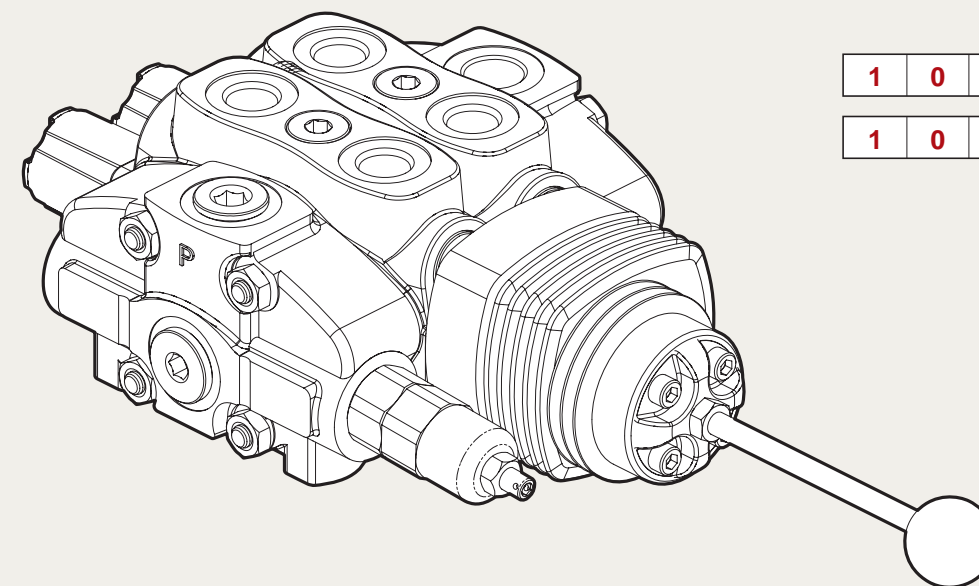


**Type SLP:**  
WITH DUST PROOF PLATE

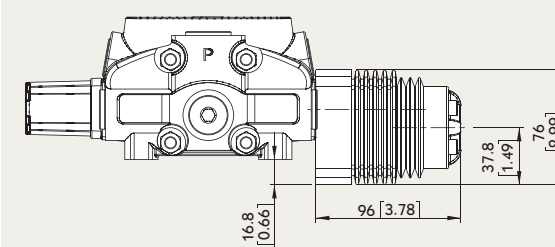
# S-4 A Side

## Sectional Directional Control Valves

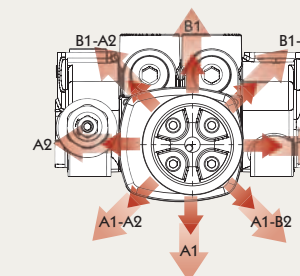
### LCB: Joystick control



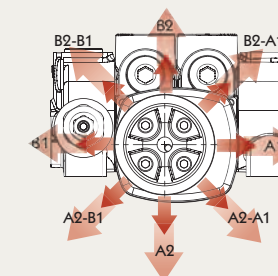
### Type LCB



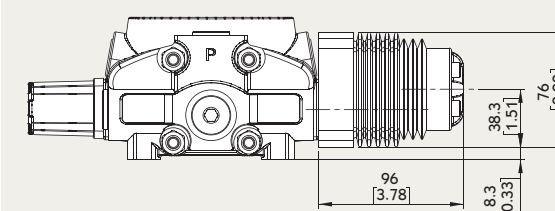
### LCB1



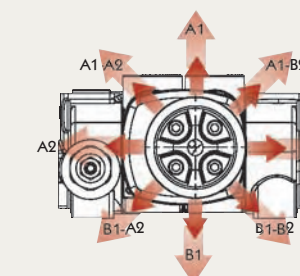
### LCB2



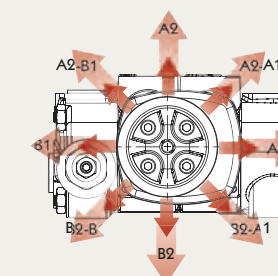
### Type LCB



### LCB3



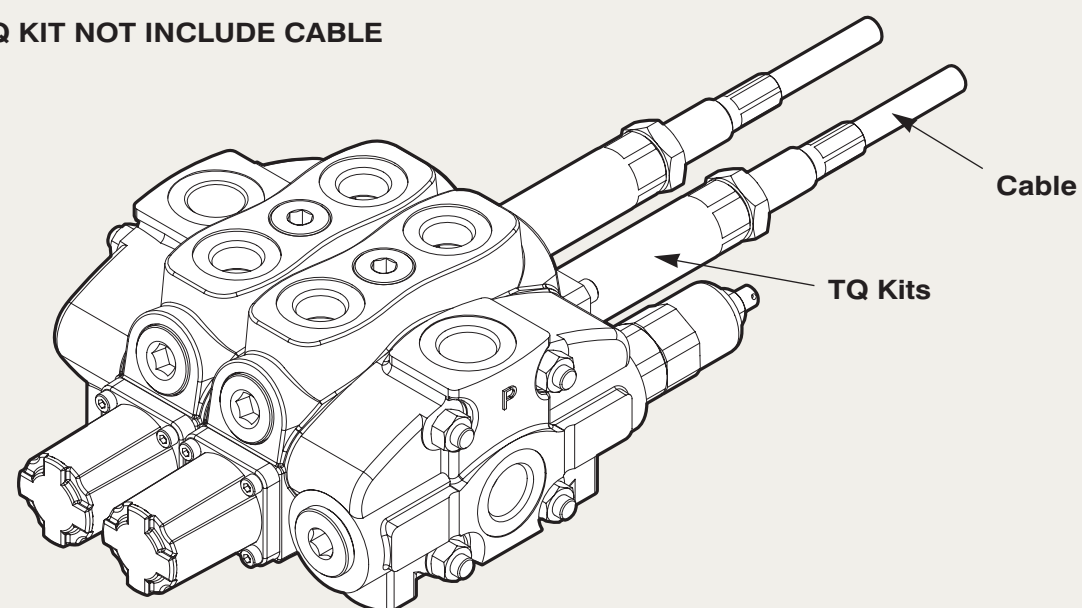
### LCB4



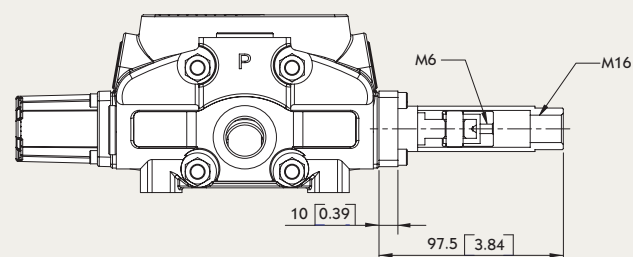
# S-4 A Side

## Sectional Directional Control Valves

Note : TQ KIT NOT INCLUDE CABLE



### Type TQ



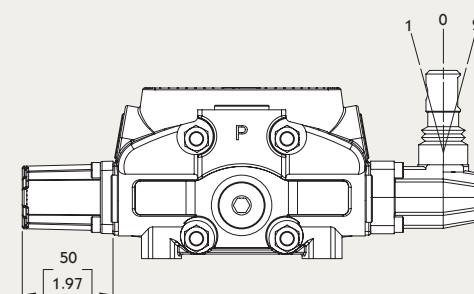
TQ Kit:



# S-4 B Side

## Sectional Directional Control Valves

### Type 6



**6-1 Kit:**

DETENT IN POS. 1 0 2, WITHOUT SPRING CENTERED



**6-2 Kit:**

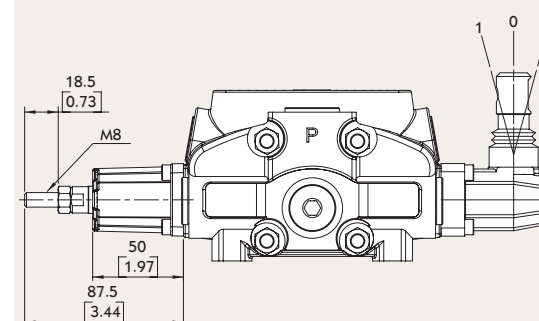
2 POSITIONS, DETENT IN POS. 0 2, WITHOUT SPRING CENTERED



**6-3 Kit:**

2 POSITIONS, DETENT IN POS. 1 0, WITHOUT SPRING CENTERED

### Type 8D2



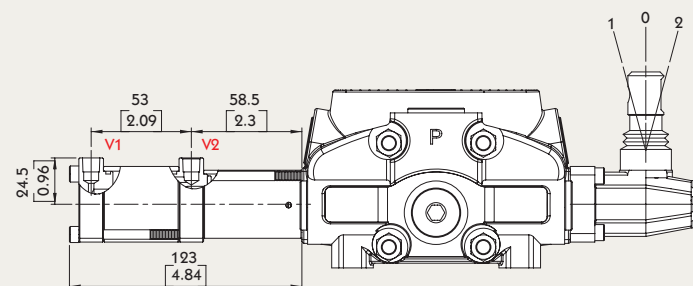
**8D2 Kit:**

WITH SPRING RETURN TO NEUTRAL POSITION AND PIN WITH M8 MALE THREAD FOR DUAL CONTROL

# S-4 B Side Sectional Directional Control Valves

## Type 8P

V1 & V2 : NPT 1/8 - 27

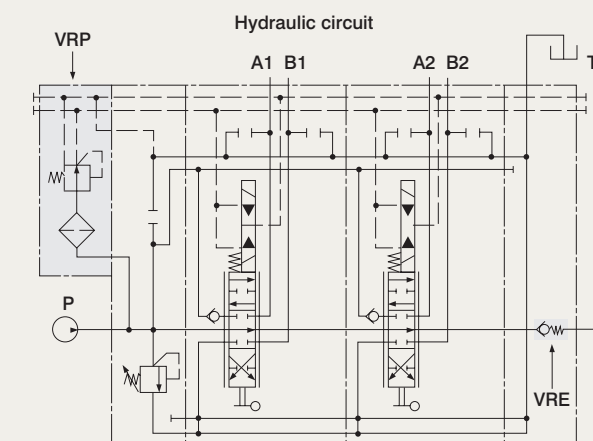
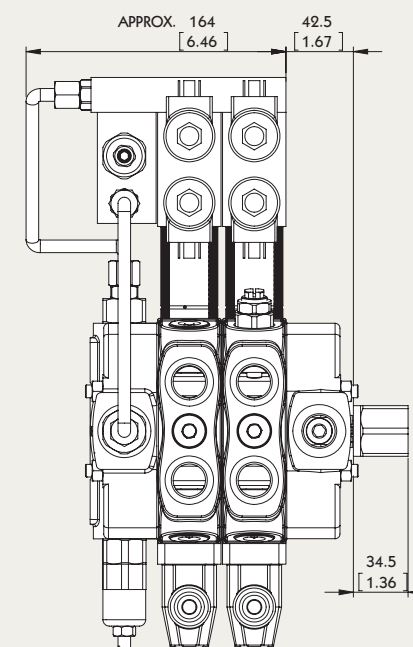


**Pilot pressure :** FROM 7 TO 10 BAR / 101 TO 145 PSI



# S-4 B Side Sectional Directional Control Valves

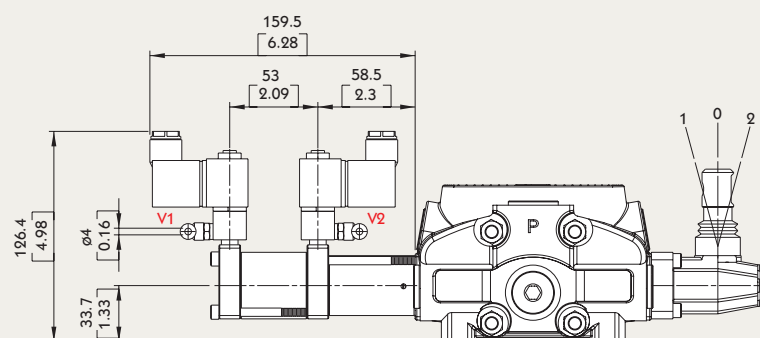
## Type 8ED3



**VRP valve operating features :**

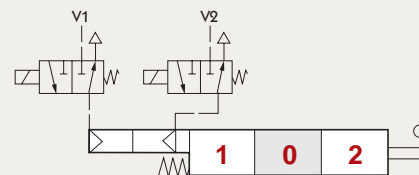
OUTLET PRESSURE: 25 BAR / 363 PSI  
MAX. FLOW: 8 L/MIN / 2.1 US GPM  
FILTERING: 80 μ

## Type 8EP3

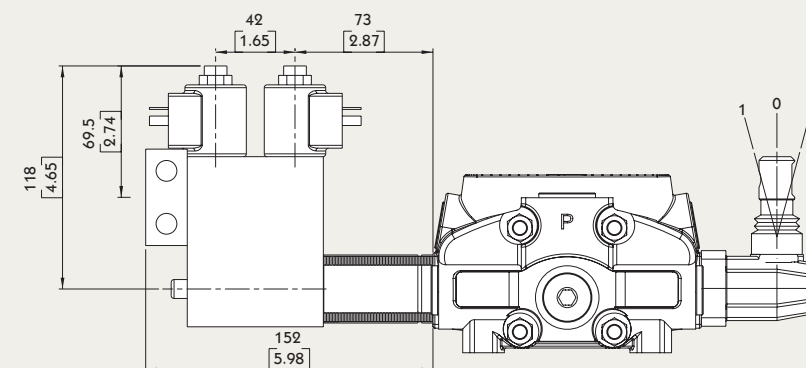


**Solenoid operating features :**

NOMINAL VOLTAGE: 24VDC  
NOMINAL VOLTAGE TOLERANCE: ±10%  
POWER RATING: 5W



## Type 8ED3

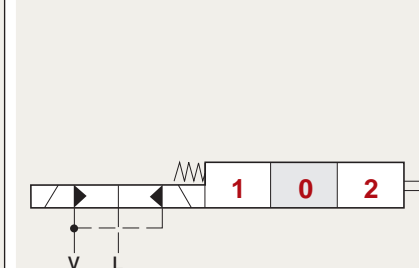


**Operating features :**

PILOT PRESSURE: • MIN. 10 BAR / 145 PSI  
• MAX. 50 BAR / 725 PSI  
MAX. BACKPRESSURE ON DRAIN L: 25 BAR / 360PSI

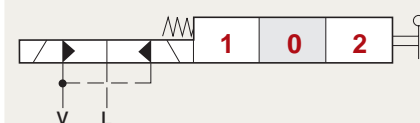
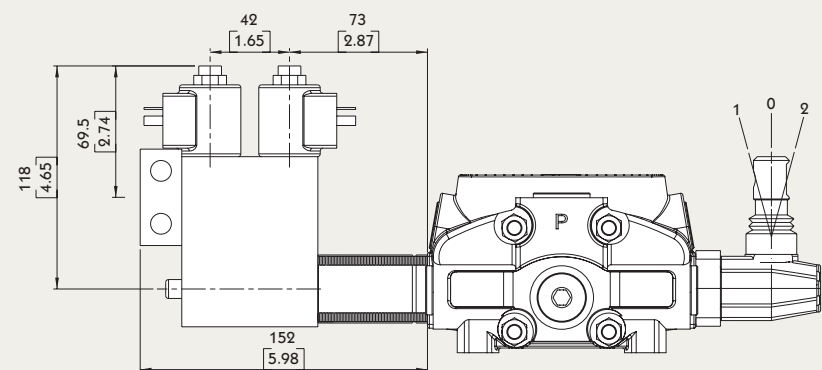
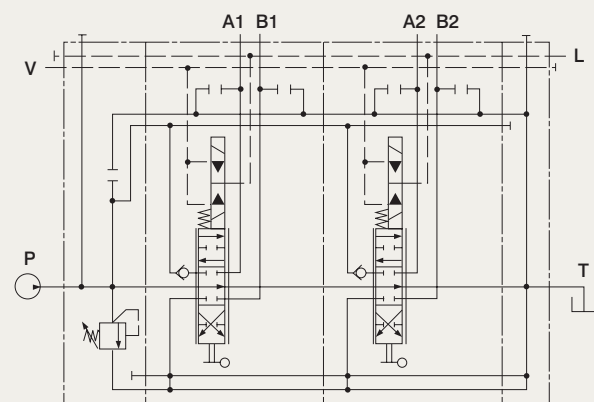
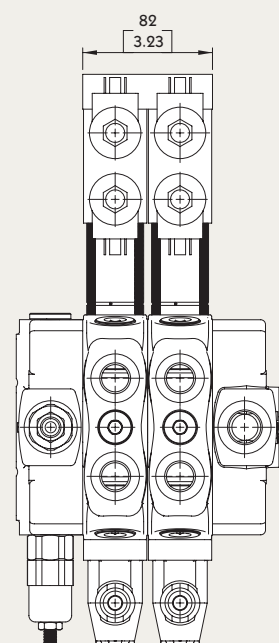
**Solenoid operating features :**

NOMINAL VOLTAGE: 12VDC / 24 VDC  
POWER RATING: 21 W  
DUTY CYCLE: 100 %



# S-4 B Side Sectional Directional Control Valves

## Type 8ER3



### Operating features :

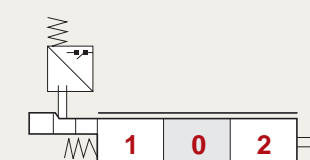
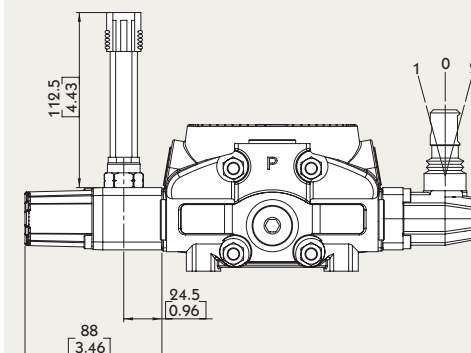
- PILOT PRESSURE: • MIN. 10 BAR / 145 PSI
- MAX. 50 BAR / 725 PSI
- MAX. BACKPRESSURE ON DRAIN L: 25 BAR / 360PSI

### Solenoid operating features :

- NOMINAL VOLTAGE: 12VDC / 24 VDC
- POWER RATING: 21 W
- DUTY CYCLE: 100 %

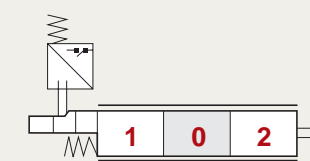
# S-4 B Side Sectional Directional Control Valves

## Type 8MG



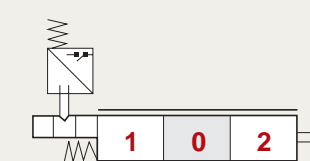
### 8MG1 Kit:

MICROSWITCH WITH MALE/FEMALE CONNECTOR, OPERATED IN POS. 1



### 8MG2 Kit:

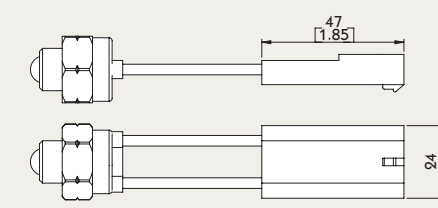
MICROSWITCH WITH MALE/FEMALE CONNECTOR, OPERATED IN POS. 2



### 8MG3 Kit:

MICROSWITCH WITH MALE/FEMALE CONNECTOR, OPERATED IN POS. 1 AND POS. 2

### With NO contact (female connector with male end)



### MICROSWITCH

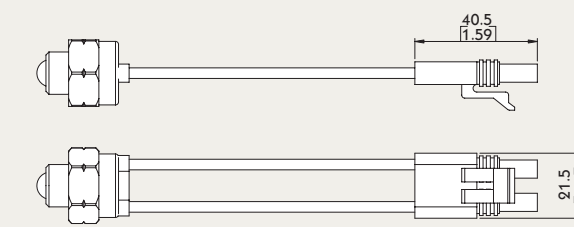
#### Operating features :

MECHANICAL LIFE: • 5X10<sup>6</sup> OPERATIONS

ELECTRICAL LIFE (RESISTIVE LOAD):

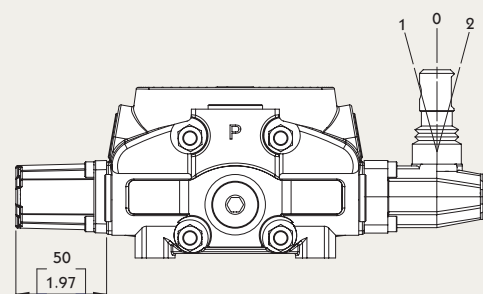
- 10<sup>6</sup> OPERATIONS 7A / 13.5 VDC
- 5x10<sup>4</sup> OPERATIONS 10A / 12 VDC
- 5x10<sup>4</sup> OPERATIONS 3A / 28 VDC

### With NC contact (male connector with female end)

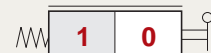


# S-4 B Side Sectional Directional Control Valves

## Type 8



**8 Kit:**  
SPRING RETURN TO NEUTRAL POSITION

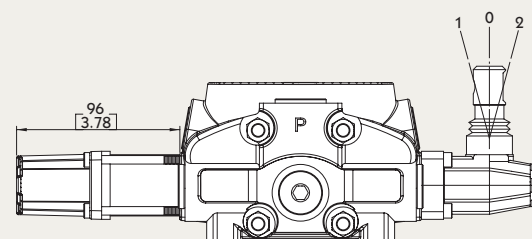


**8-1 Kit:**  
SPRING RETURN TO NEUTRAL POSITION.  
(2 POSITIONS)



**8-2 Kit:**  
SPRING RETURN TO NEUTRAL POSITION.  
(2 POSITIONS)

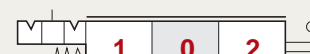
## Type 9



**9-1 Kit:**  
DETENT IN POS. 1, 2 WITH SPRING CENTERED



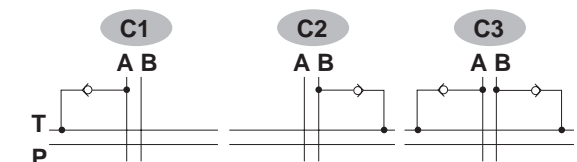
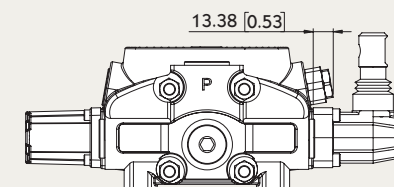
**9-2 Kit:**  
DETENT IN POS. 2 WITH SPRING CENTERED



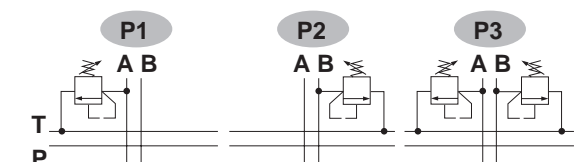
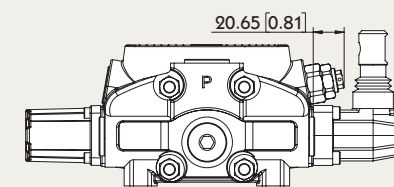
**9-3 Kit:**  
DETENT IN POS. 1 WITH SPRING CENTERED

# S-4 Port Relief Sectional Directional Control Valves

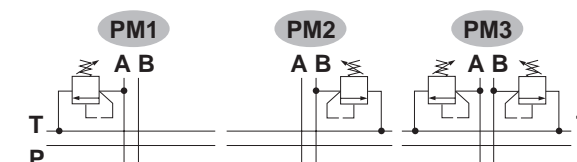
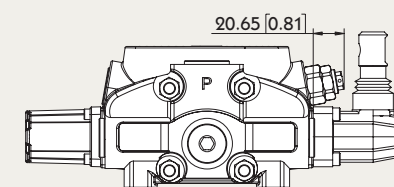
## TYPE C



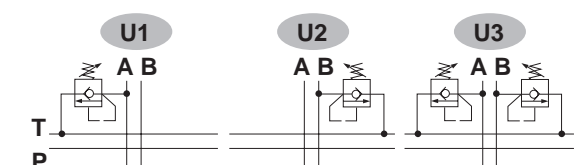
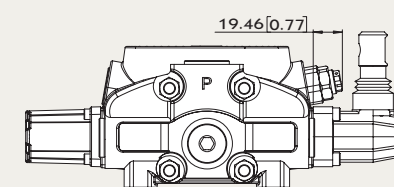
## TYPE P



## TYPE PM



## TYPE U

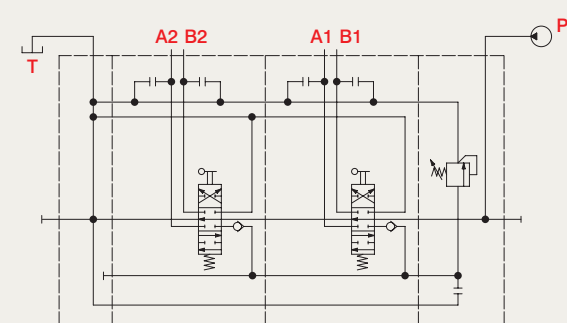
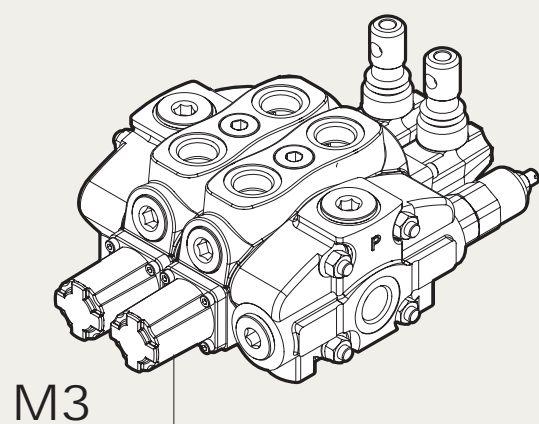
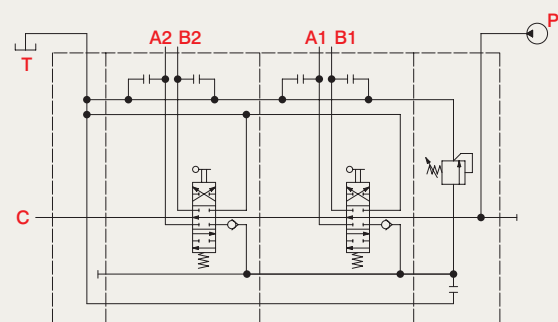
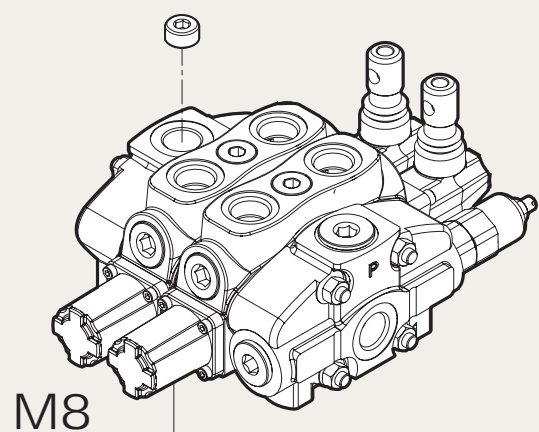




# S-4 Outlet

## Sectional Directional Control Valves

Power Beyond Conversion plug  
(Closed center plug)



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