

D.5.1



	F	W	-	*	-	*	-	*	*	*	/	*	*	50	*	
Electrical Operated Directional Control Valve															<u>Remarks</u>	
Specification															<u>Serial number</u>	
02 DN6																
03 DN10																
Function code															50 Rexroth	
Details as following symbol table															60 Vickers	
															70 Yuken	
															Seal material	
															Omit NBR Seals	
															V FPM Seals	
Working voltage															Omit without damping	
D12 DC12V															08 Φ0.8 Damping	
D24 DC24V															10 Φ1.0 Damping	
A110 AC110V															12 Φ1.2 Damping	
A220 AC220V																
B110 AC110V Rectified																
B220 AC220V Rectified																
Z5L Square connector with light															Omit without hand emergency	
Z6 Wire box type															N9 with concealed hand emergency	

FW - * - * - * * * / * * 50 *		
Electrical Operated Directional Control Valve		Remarks
Specification 02 DN6 03 DN10		Serial number
Function code Details as following symbol table		50 Rexroth 60 Vickers 70 Yuken Seal material Omit NBR Seals V FPM Seals
Working voltage D12 DC12V D24 DC24V A110 AC110V A220 AC220V B110 AC110V Rectified B220 AC220V Rectified		Omit without damping 08 Φ0.8 Damping 10 Φ1.0 Damping 12 Φ1.2 Damping
Z5L Square connector with light Z6 Wire box type		Omit without hand emergency N9 with concealed hand emergency

D.5.2

Spring return					
3C2		2B2B		2B2BL	
3C3		2B3B		2B3BL	
3C4		2B4B		2B4BL	
3C5		2B5B		2B5BL	
3C6		2B6B		2B6BL	
3C7		2B7B		2B7BL	
3C9		2B9B		2B9BL	
3C10		2B10B		2B10BL	
3C11		2B11B		2B11BL	
3C12		2B12B		2B12BL	
3C25		2B25B		2B25BL	
3C29		2B29B		2B29BL	

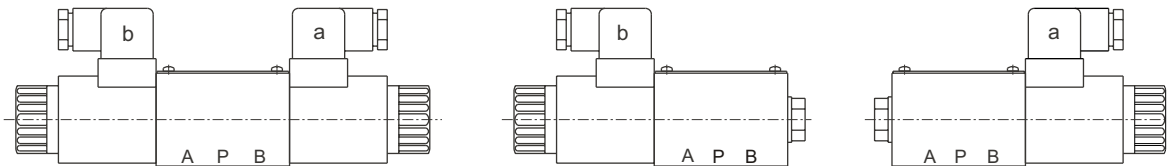
3C2		2B2B		2B2BL	
3C3		2B3B		2B3BL	
3C4		2B4B		2B4BL	
3C5		2B5B		2B5BL	
3C6		2B6B		2B6BL	
3C7		2B7B		2B7BL	
3C9		2B9B		2B9BL	
3C10		2B10B		2B10BL	
3C11		2B11B		2B11BL	
3C12		2B12B		2B12BL	
3C25		2B25B		2B25BL	
3C29		2B29B		2B29BL	

	2D2
	2D3
	2D8

	2N2
	2N3
	2N8

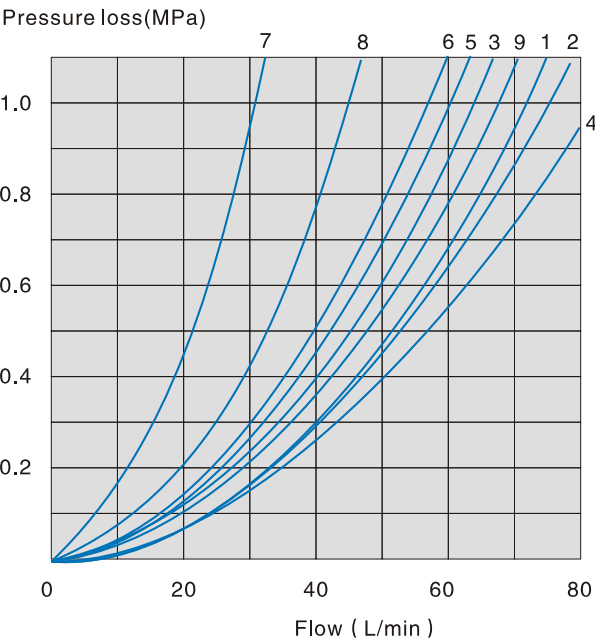
Electrical operated directional control valve

Name of solenoid



- 1. a When movement a, P→A B→T
- 2. b When movement b, P→B A→T
- 3. Oil flow in the opposite direction with the above-mentioned movement for 3C5、3C6symbol Valve.

02 Specification Performance curve (Measured at $v=41mm^2/s$ and $t=50^{\circ}C$)



Function code	Direction			
	P→A	P→B	A→T	B→T
2B8 2B8L	3	3	—	—
2B3	1	1	3	1
2B2 2B2L	5	5	3	3
3C2	3	3	1	1
3C5	1	3	1	1
3C6	6	6	9	9
3C3	2	4	2	2
3C4	1	1	2	1
3C10,3C12	3	3	4	9
3C9	2	3	3	3
3C25	3	1	1	1
3C29	5	5	4	—
3C7	1	2	1	1

- 7.Spool type “3C29” located in the control position A →B
- 8. Spool symbol 3C6 in the neutral position P →T

Electrical operated directional control valve

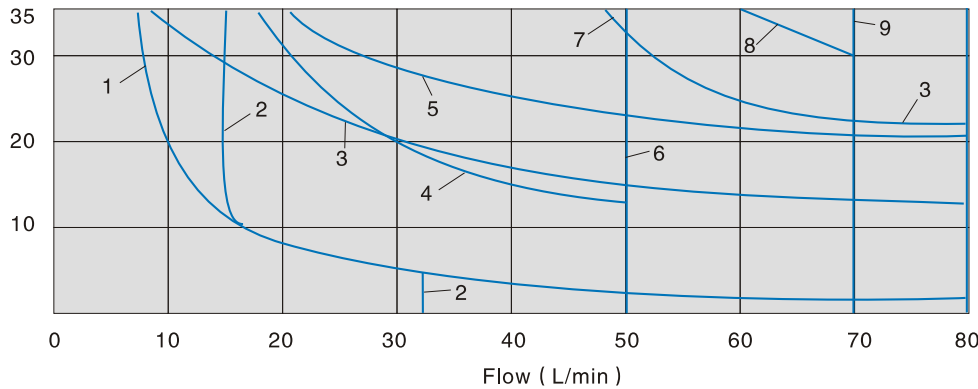


02 Specification Working limits (The working limits for directional valves have determined by using solenoids at their operating temperature, 10% under voltage and with no pre-loading of the tank)

With regard to the four-way valve, the normal flow data as shown is get from the regular use of two directions of the flow (e.g.P to A,and simultaneous return flow from B to T). See tables. If only one flow direction is needed, for example: When a four port valve which is closed up port A or port B, used as a three-way valve, the Maximum flow may be very small in the serious condition.

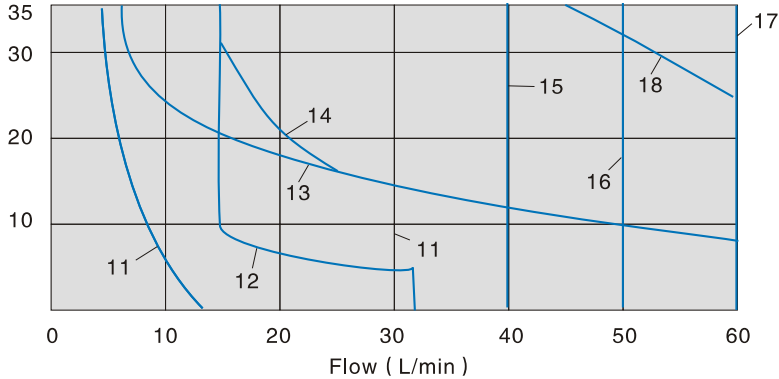
DC solenoid operation DC D24, D1 2, B220, B110		AC solenoid operation AC A110, A220, 50HZ	
Curve	Symbol	Curve	Symbol
1	2B8 2B8L1)	11	2B8 2B8L1)
2	3C7	12	3C7
3	2B8 2B8L	13	2B8 2B8L
4	3C5 3C25	14	3C5 3C25
5	3C4	15	3C6
6	3C6 3C3	16	3C3
7	2N8 2D8 3C10 3C12	17	2N8 2D8 2N3 2D3
8	2B3 2B2 2B2L	18	2N2 2D2 3C2 3C4 3C10
9	3C9		3C9 3C29 3C12
10	3C2 3C29 2N3 2D3 2N2 2D2		2B3 2B2 2B2L

Working pressure(MPa)



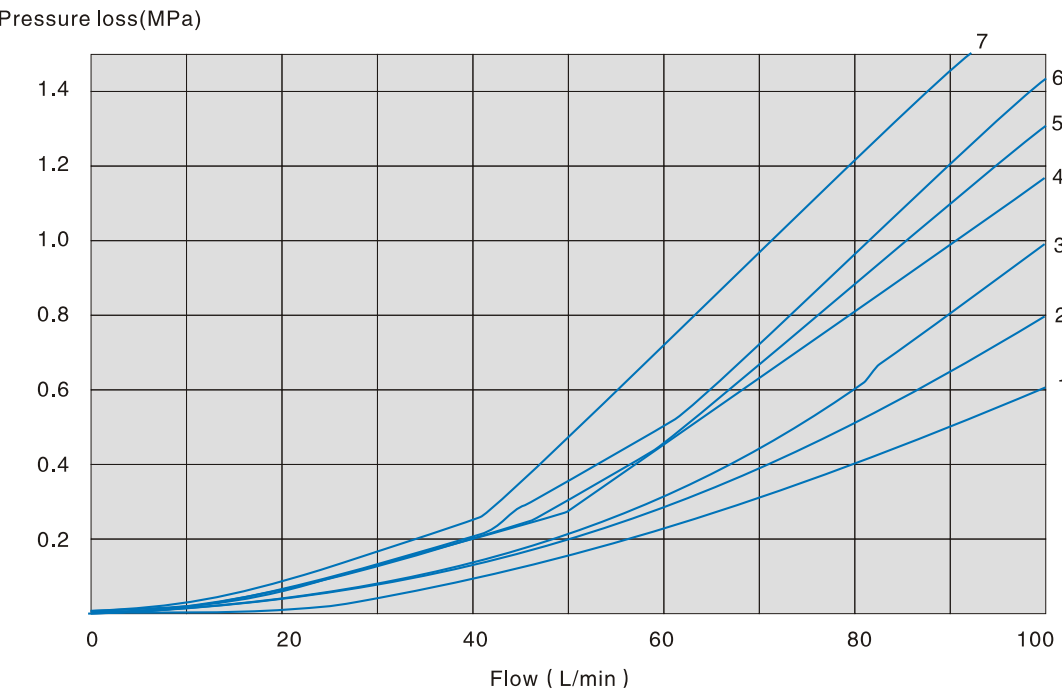
- 1) No manual emergency operation
- 2) Oil return from actuator to oil tank

Working pressure(MPa)



Electrical operated directional control valve

03 Specification Performance curve (Measured at $v=41\text{mm}^2/\text{s}$ and $t=50^\circ\text{C}$)



Function code	Direction			
	P→A	P→B	A→T	B→T
2B8 2B8L	2	2	–	–
2B3 2B2 2B2L	2	2	3	3
3C2 3C7	2	2	4	4
3C5	2	3	3	5
3C6	3	3	4	6
3C3	1	1	4	5
3C10 3C12	2	2	3	5
3C9	1	1	5	1
3C25	3	2	5	3
3C29	2	4	3	–

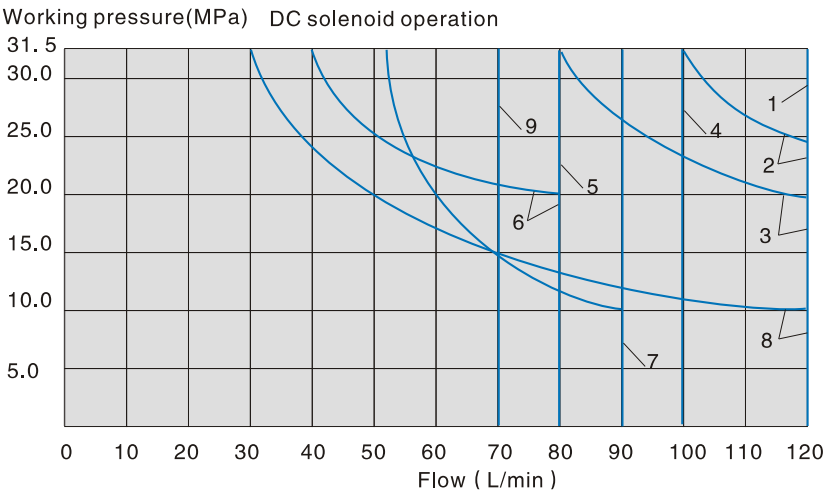
7. Spool symbol “3C29” in the shifting position A → B
4. Spool symbol 3C6 in neutral position P → T

Electrical operated directional control valve



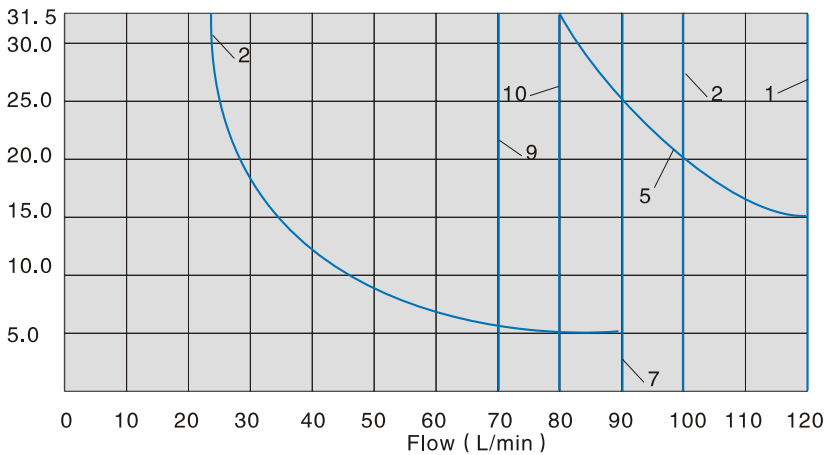
03 Specification Working limits (The working limits for directional valves have determined by using solenoids at their operating temperature, 10% under voltage and with no pre-loading of the tank)

With regard to the four-way valve, the normal flow data as shown is get from the regular use of two directions of the flow (e.g. P to A, and simultaneous return flow from B to T). See tables. If only one flow direction is needed, for example: When a four port valve which is closed up port A or port B, used as a three-way valve, the Maximum flow may be very small in the serious condition.



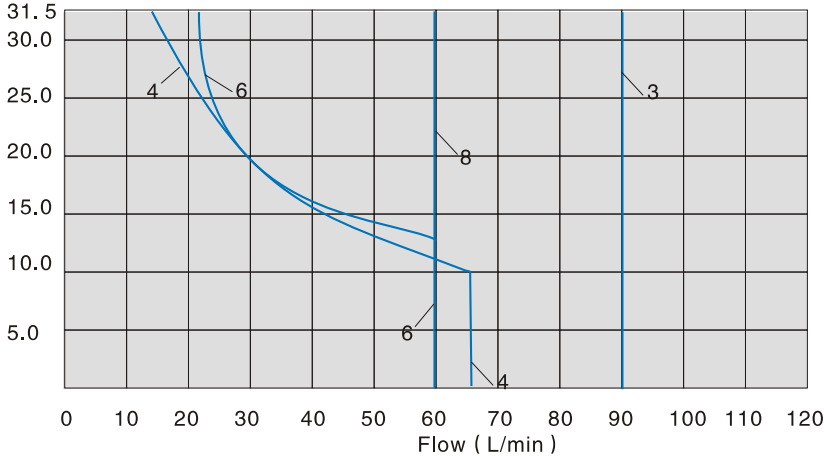
Curve	Symbol
1	2B3 2N3 2D3 2B2 2N2 2D2 2B2L 3C9
2	3C2
3	2N8 2D8 3C10 3C12 3C4
4	3C3
5	3C29
6	3C6
7	3C5 3C25
8	2B8 2B8L
9	3C7
1)	Return circuit (Independent of area ratio)

Working pressure(MPa) AC solenoid operation



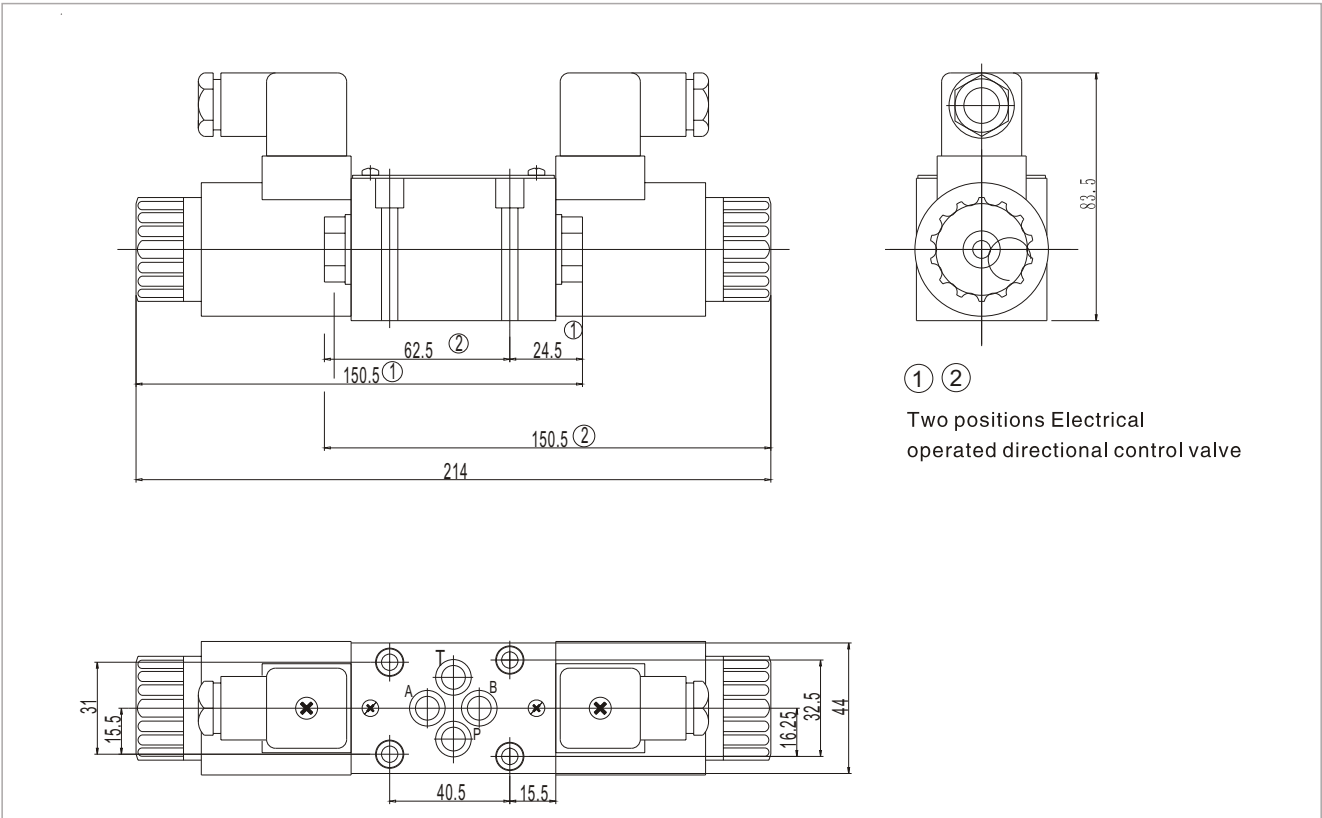
110V,50Hz; 120V,60Hz; 220V,50Hz; 240V,60Hz;	
Curve	Symbol
1	2B3 2N3 2D3 2B2 2N2 2D2 2B2L
2	3C2 3C10
3	3C12 3C9
4	2B8 2B8L
5	2N8 2D8 3C4
6	3C6
7	3C5 3C25
8	3C7
9	3C3
10	3C29

Working pressure(MPa) AC solenoid operation

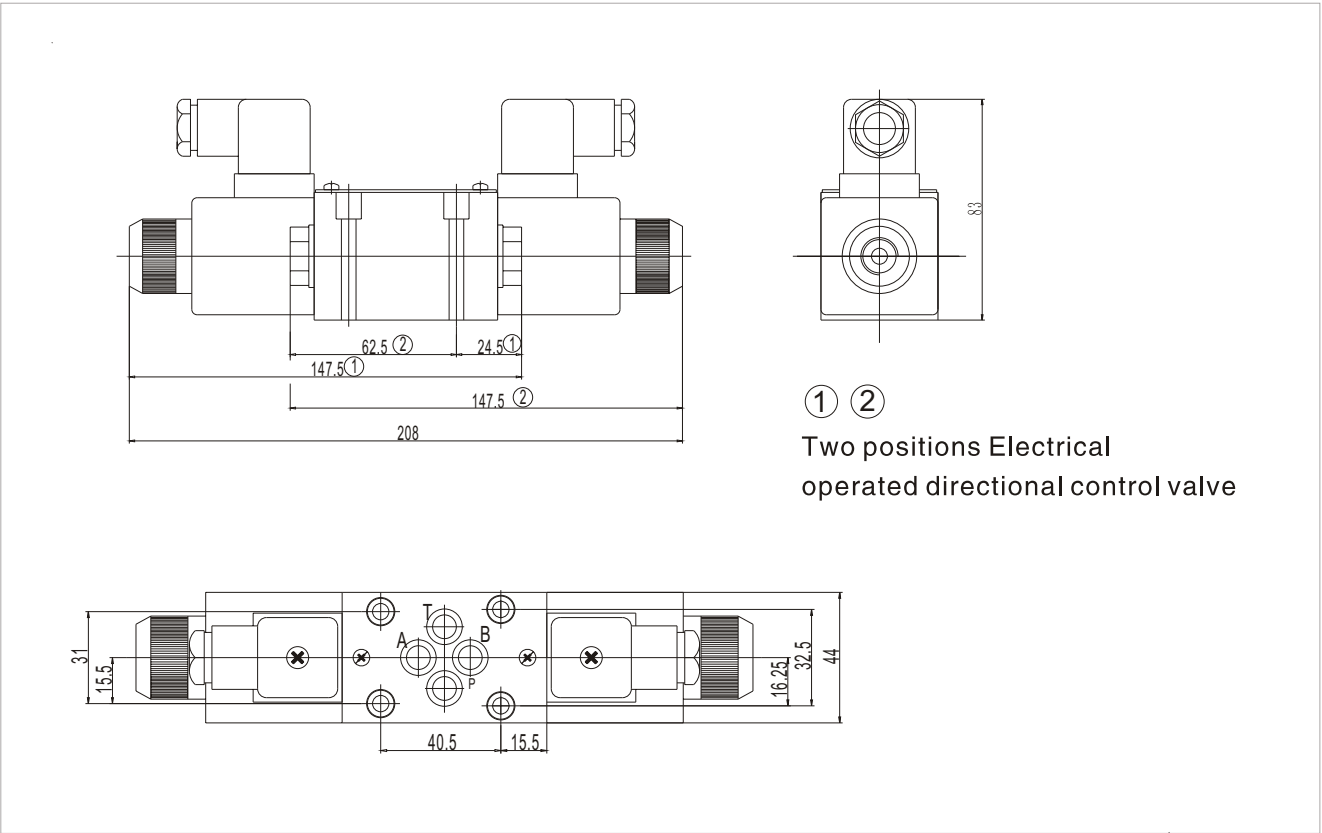


Electrical operated directional control valve

External dimensions (02 Direct current plug type)



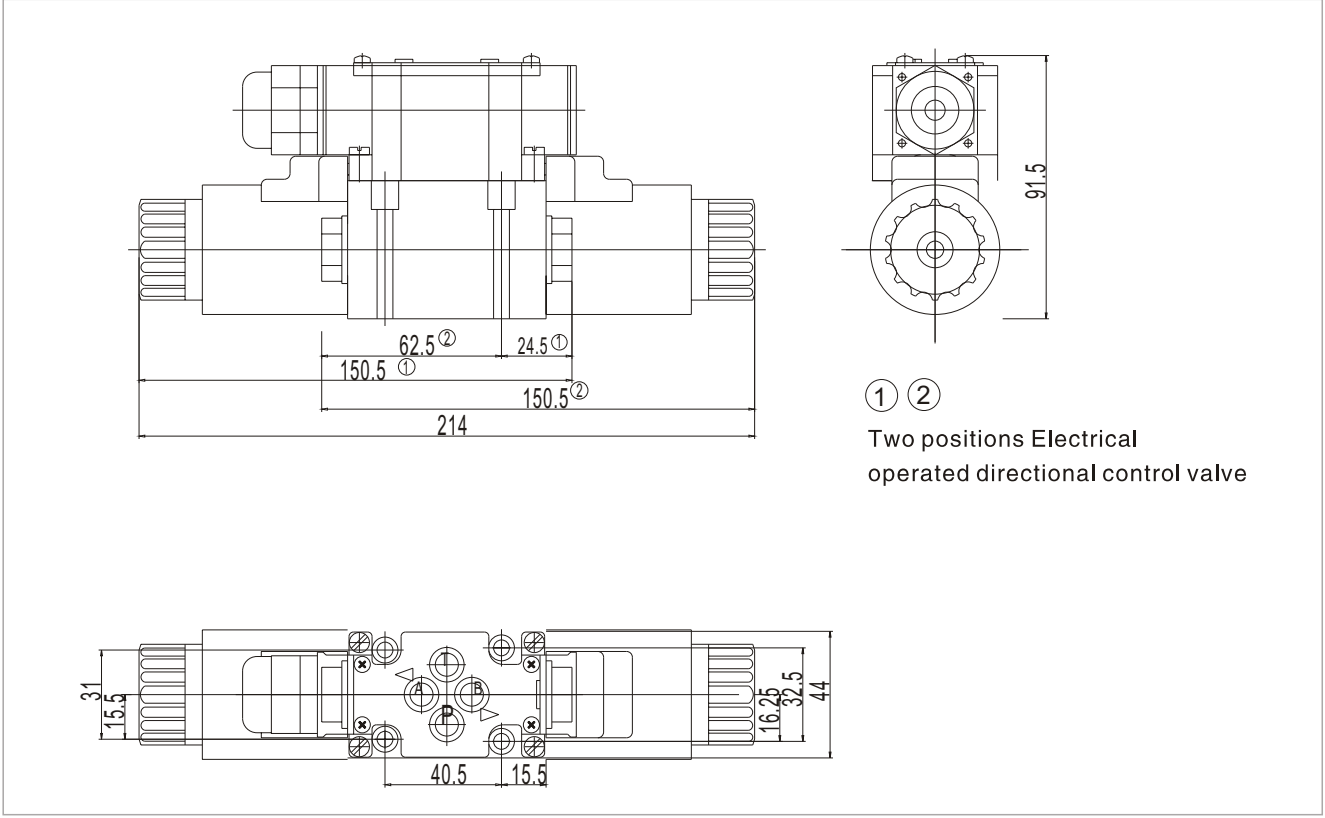
External dimensions(02 Direct current wire box type)



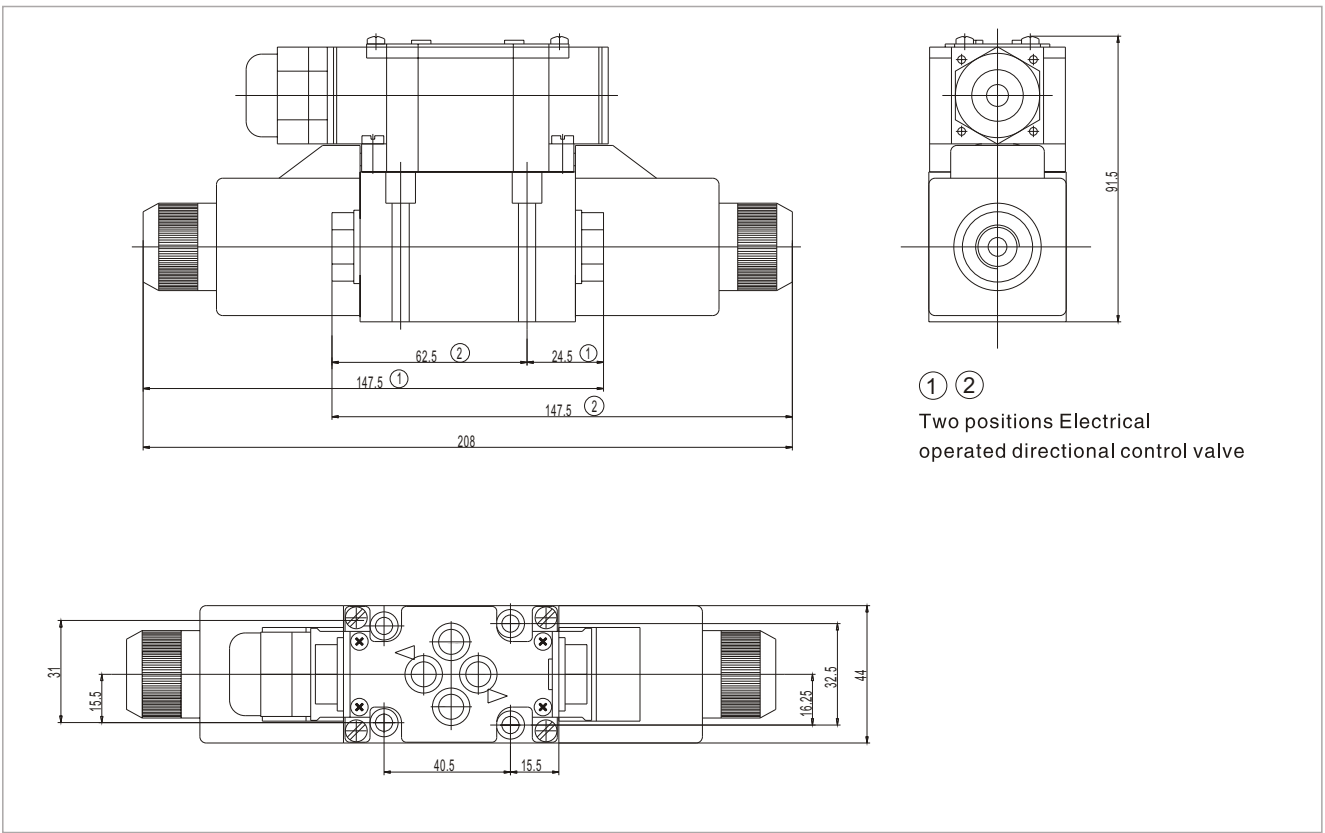
Electrical operated directional control valve



External dimensions (02 Alternating current plug type)



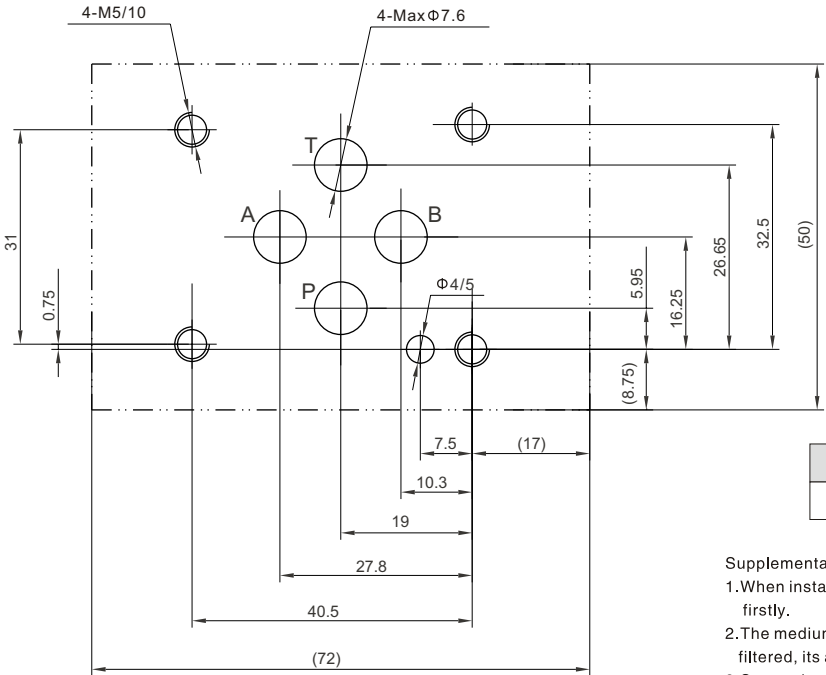
External dimensions (02 Alternating current wire box type)



Electrical operated directional control valve



02 Size of subplate oil port

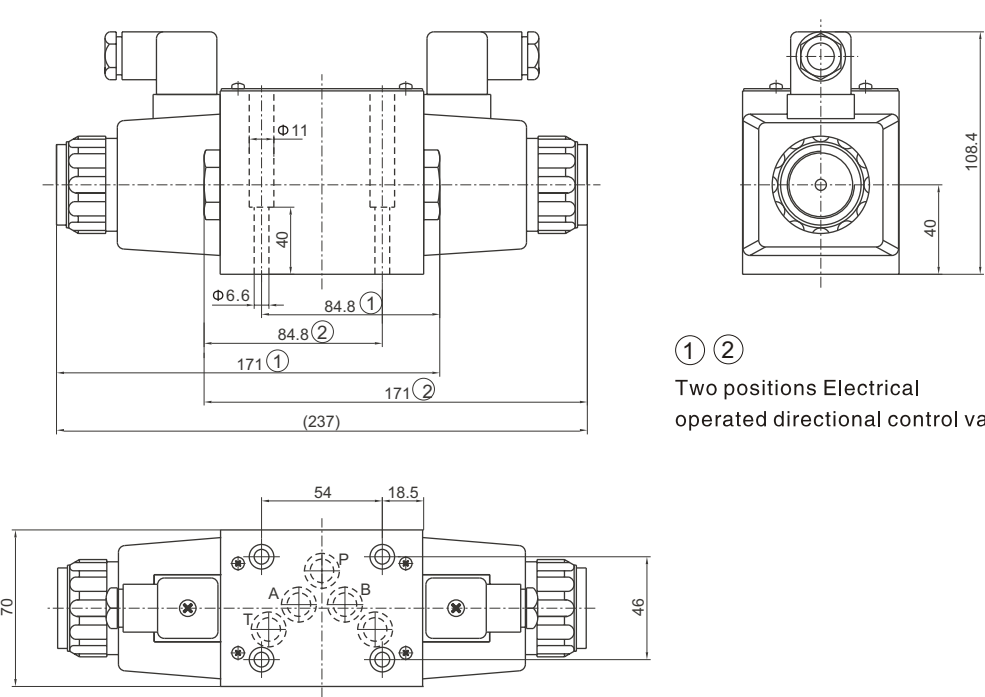


Mounting screw	Amount	Tighten torque
M5x45-10.9	4	9Nm

Supplementary explanation
1. When installing the product, considering horizontal position firstly.
2. The medium used in the hydraulic system must be filtered, its accuracy at least 20 μ m.
3. Screw should be according to the parameters in catalogue.
4. The surface, connecting with the valve, should be Ra0.8 roughness, and 0.01/100mm flatness.

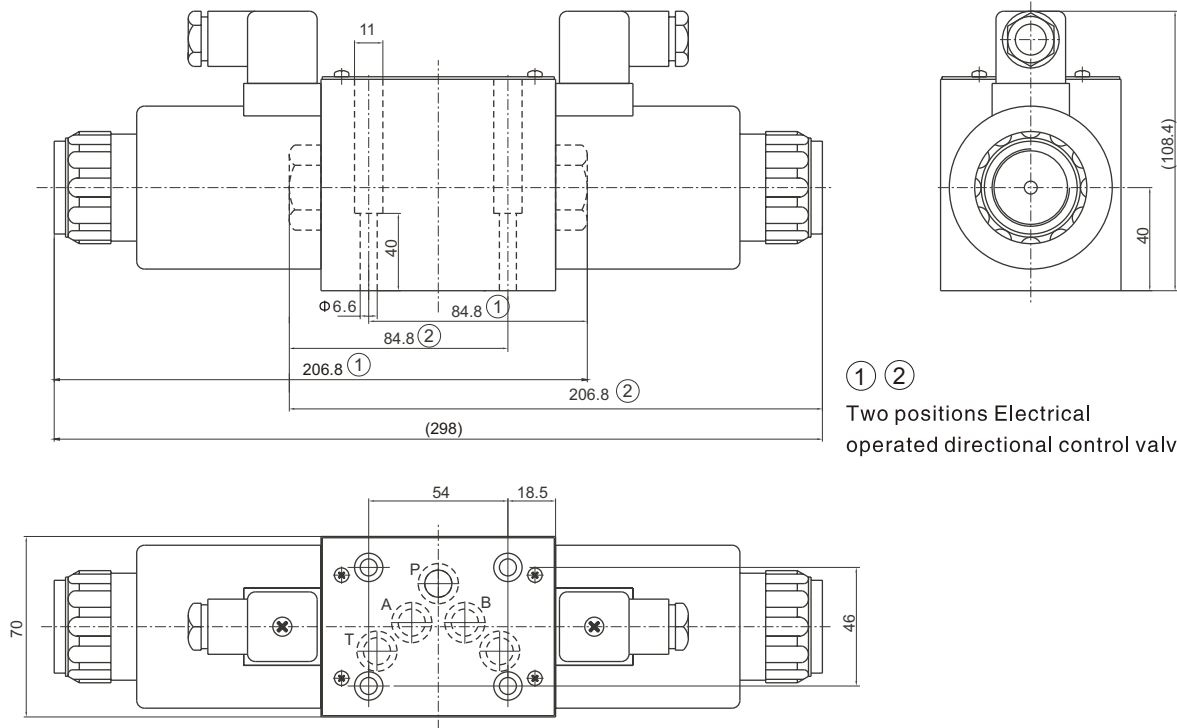
Electrical operated directional control valve

External dimensions (03 Alternating current plug type)



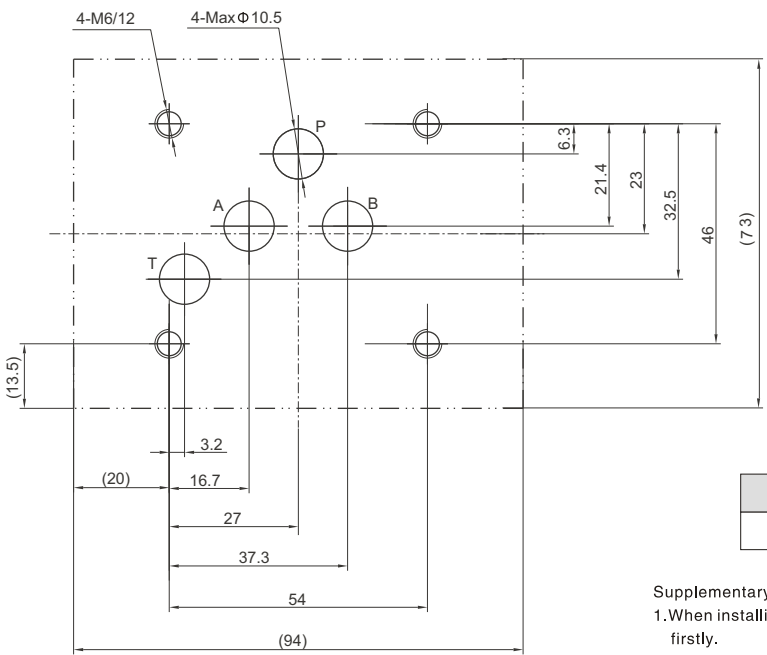
① ②
Two positions Electrical operated directional control valve

External dimensions (03 Direct current plug type)



① ②
Two positions Electrical operated directional control valve

03 Size of subplate oil port



Mounting screw	Amount	Tighten torque
M6x50-10.9	4	15Nm

Supplementary explanation
1. When installing the product, considering horizontal position firstly.
2. The medium used in the hydraulic system must be filtered, its accuracy is at least 20 μ m.
3. Screw should be according to the parameters in catalogue.
4. The surface, connecting with the valve, should be Ra0.8 roughness, and 0.01/100mm flatness.