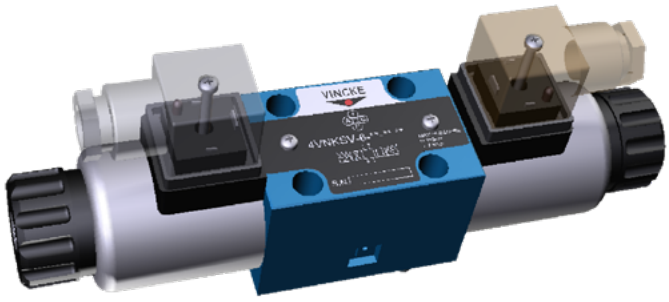
Electrical operated directional control valve



Vincke solenoid valves is designed and tested under innovative concepts to satisfy the advanced needs of currents machines:
versatility, reduced power absorbed and safety ofuse.

Solenoid directional valves are used for changing flow direction in hydraulic systems.

Technical characteristics

Specification		06		10	
Working pressure (Mpa)	Oil ports P,A,B	35		31.5	
	Oil port T	16		16	
Max. Flow (L/min)		80		120	
Working fluid		Mineral oil: phosphate-ester			
Fluid temp. (°C)		-20~70			
Viscosity (mm ^{2}/s)		2.8~100			
Working voltage (V)	DC	12		24	
	AC	110/50Hz		220/50Hz	
Max. Switch frequency (T/h)		15000 (DC)		7200 (AC)	
Insulation grade		IP65			
Weight (kg)	Single solenoid	1.45 (DC)	1.4 (AC)	5.1 (DC)	4.3 (AC)
	Double solenoid	1.95 (DC)	1.9 (AC)	6.7 (DC)	5.1 (AC)

Cleanliness

The maximum allowable cleanliness of the oil should be according to 9th degree of Standard Nas1638. It is suggested that the minimum filter rating should be ß10 ≥75.

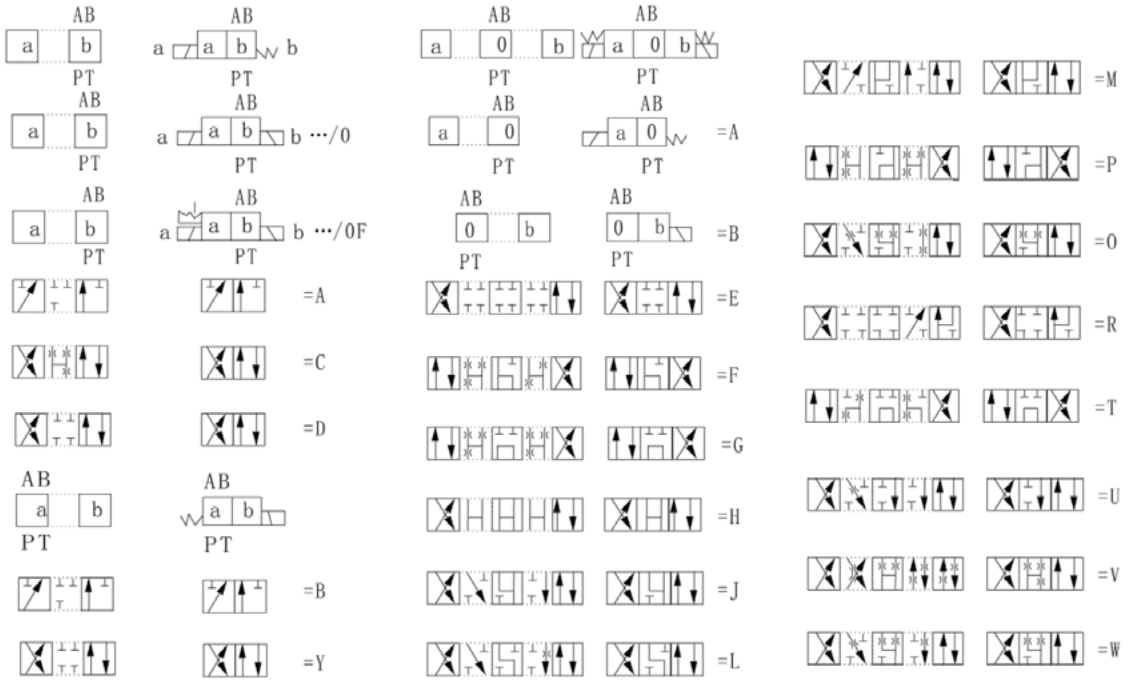
Ordering Code

4VNKSV – 6 – E – OF – DC24 – 4L

4 main ports
Nominal size 6 Cetop 3 or 10 Cetop 5
Type of spool E,J,D,C,HA,E etc.
With spring return = no code
Without spring return = O
Without spring return with detent =OF

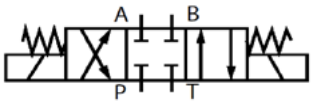
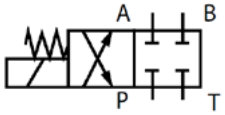
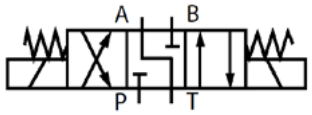
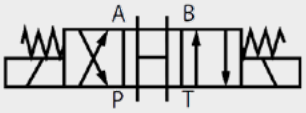
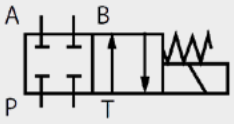
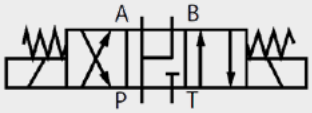
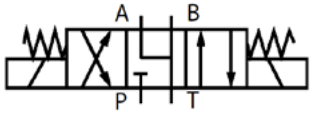
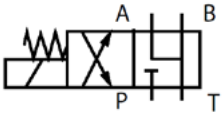
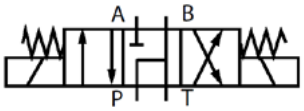
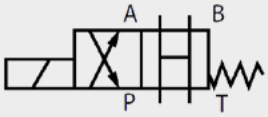
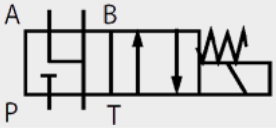
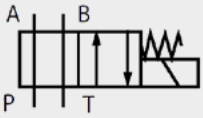
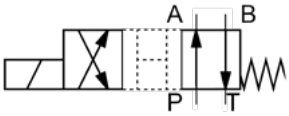
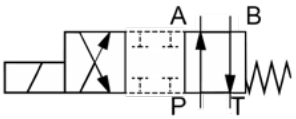
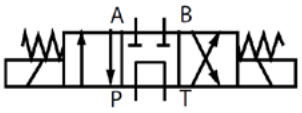
Electrical Connection:
4L= DIN connector+led
4X= DIN connector without led
DC 24 or DC12
AC220 AC110 AC24

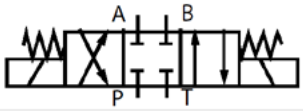
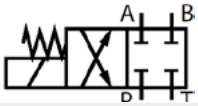
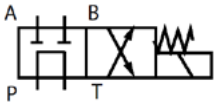
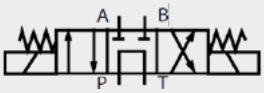
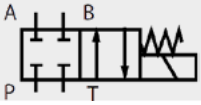
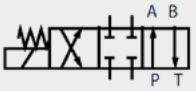
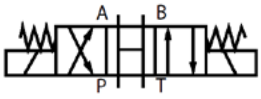
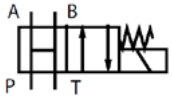
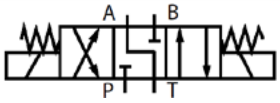
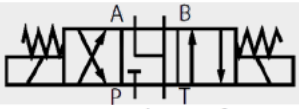
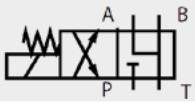
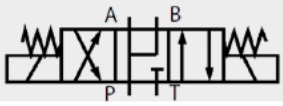
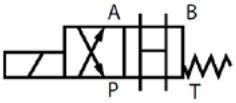
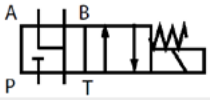
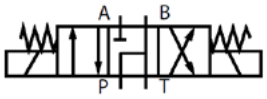
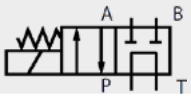
Code Symbol



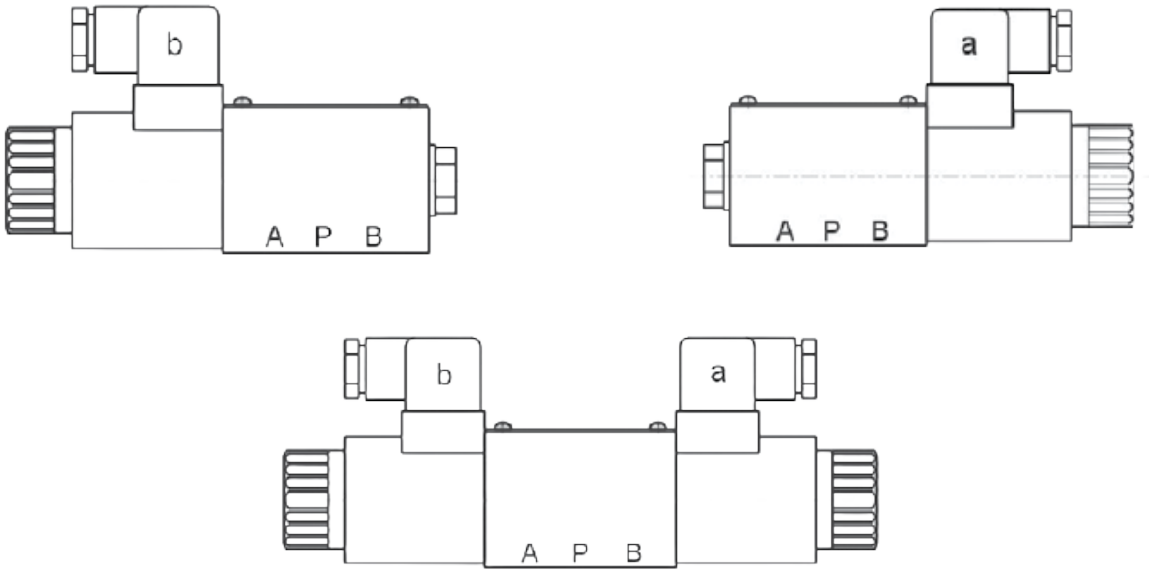
1) Exemple:
Spool symbol H with spool A and coil side A, ordering code HA
Solenoid directional valves are used for changing flow direction in hydraulic systems.

Code symbol

4VNKSV-6					
6-E		6-EA		6-L	
6-H		6-EB		6-M	
6-J		6-JA		6-P	
6-HA		6-JB		6-HB	
6-C		6-D		6-G	

4VNKSV-10					
10-E		10-EA		10-GB	
10-G		10-EB		10-D	
10-H		10-HB		10-L	
10-J		10-JA		10-M	
10-HA		10-JB		10-P	
10-C		10-GA			

Cetop 3

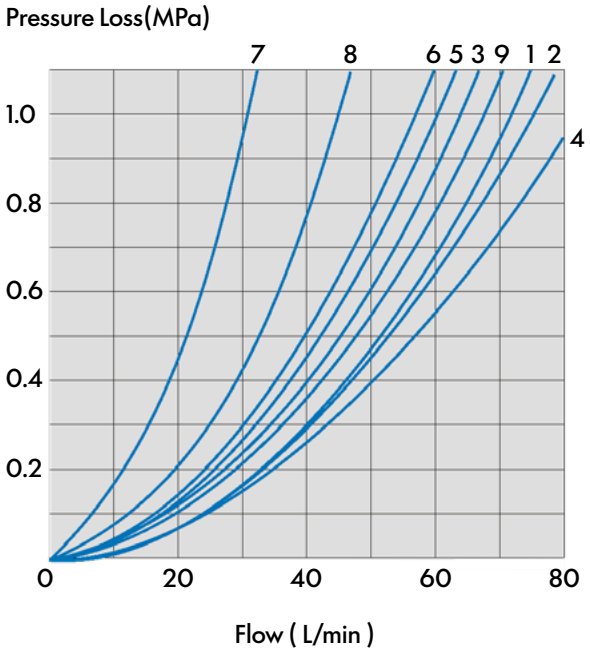


Specification Performance curve

Mesured at v=41mm ^{2}/s and t=50°C

Function Code	Direction			
	P > A	P > B	A > T	B > T
C	1	1	3	1
D	5	5	3	3
E	3	3	1	1
F	1	3	1	1
G	6	6	9	9
H	2	4	2	2
J	1	1	2	1
L	3	3	4	9
M	2	3	3	3
P	3	1	1	1

8. Spool symbol G in the neutral position P >T

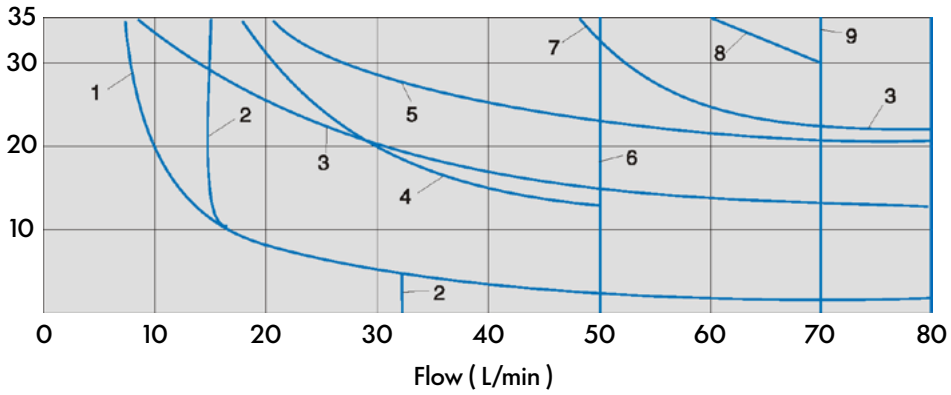


Specification Working Limits

DC24 12 110		AC 220 110 24 50HZ	
Curve	Symbol	Curve	Symbol
4	F P	14	F M
5	J	15	G
6	G H	16	H
7	L	17	E H/OF E/OF J M L
8	C D	18	C D
9	M		
10	E H/OF E/OF		

With regard to the four-way valve, the normal flow data as show is get from the regular use of two directions of the flow. See tables. If only one flow direction is needed, the maximum flow may be very small in the serious condition.

Working pressure (MPa)

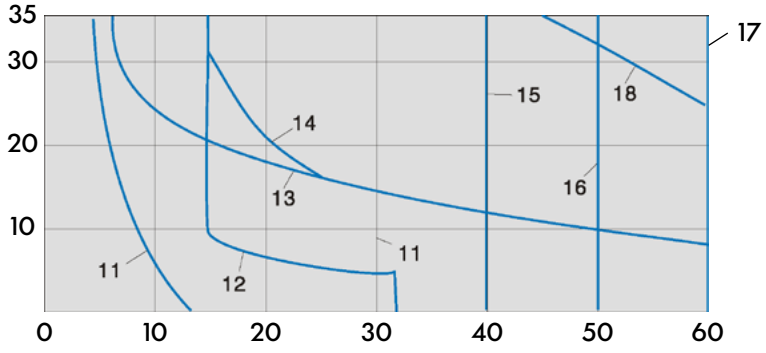


Flow (L/min)

1) No manual emergency operation

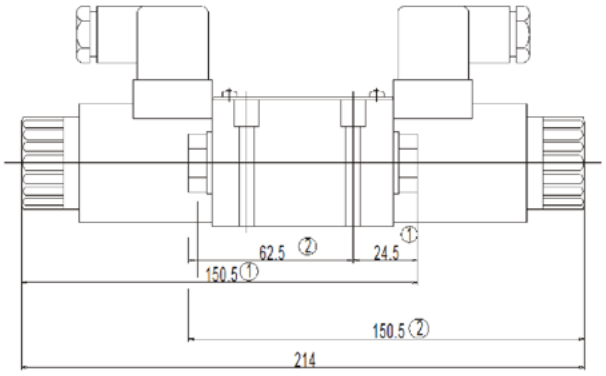
2) Oil return from actuator to oli tank

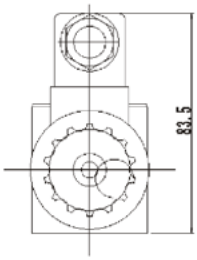
Working pressure (MPa)

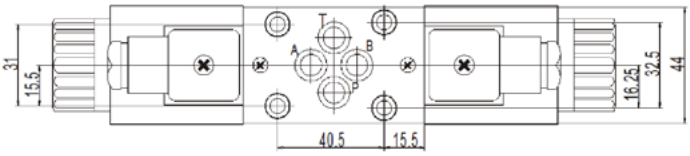


Flow (L/min)

External Dimensions



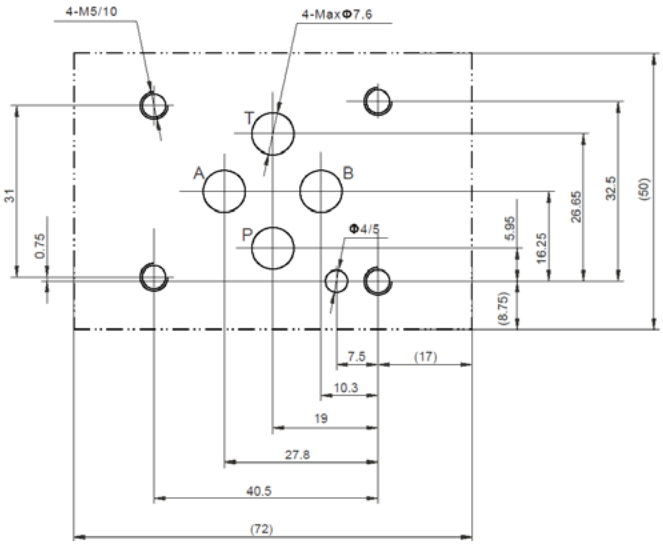




① ②

Two positions Electrical operated directional control valve

Size of Subplate Oil Port



Mounting screw	Amount	Tighten torque
M5x45 - 10.9	4	9Nm

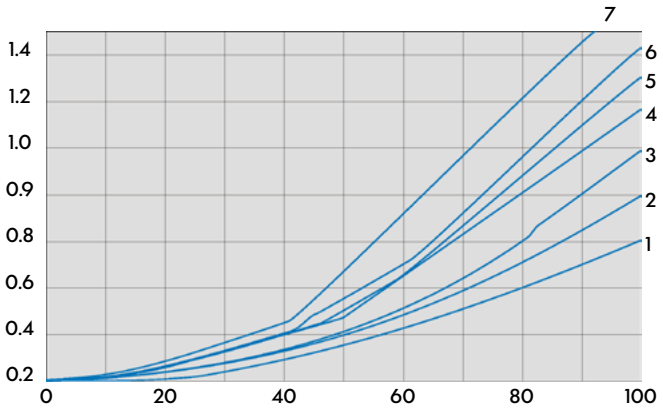
Supplementary explanation
1. When installing the product, considering horizontal position firstly.
2. The medium used in the hydraulic system must be filtered, its accuracy at least 20 μ m.
3. Screw should be according to the parameters in catalogue.
4. The surface, connecting with the valve, should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

Cetop 5

SPECIFICATION PERFORMANCE CURVE
Measured at v=41mm^2/s and t=50°C

Function Code	Direction			
	P > A	P > B	A > T	B > T
C D	2	2	3	3
E	2	2	4	4
F	2	3	3	5
G	3	3	4	6
H	1	1	4	5
L	1	1	4	5
M	1	1	5	1
P	3	2	5	3

Pressure loss (MPa)

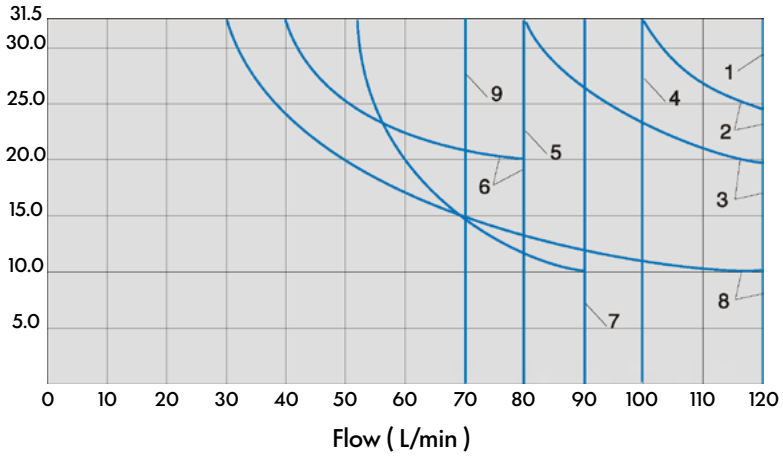


8. Spool symbol G in the neutral position P >T

Specification Working Limits

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.

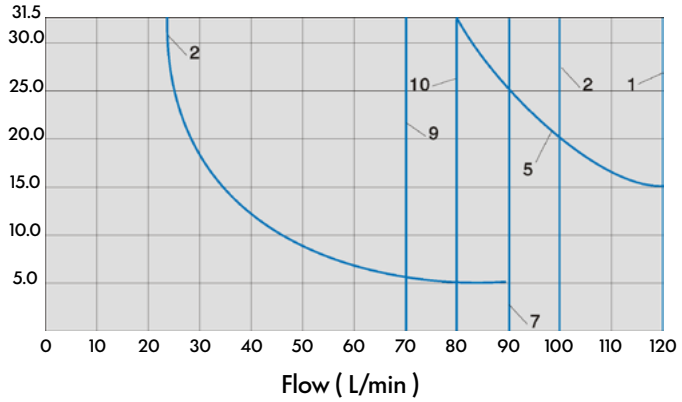
Working pressure (MPa) DC Solenoid operation



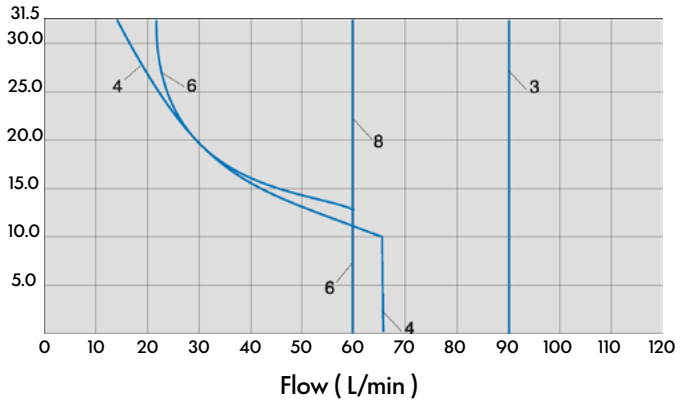
Curve	Symbol
1	C D H/OF E/OF M
2	E
4	L J H
6	G
7	F P

(1) Return circuit (independent of area radio)

Working pressure (MPa) DC Solenoid operation

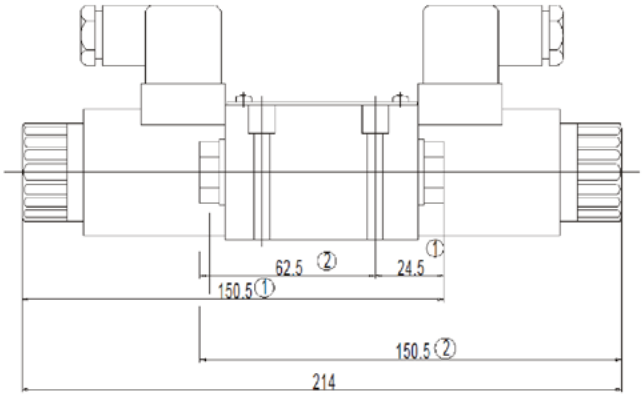


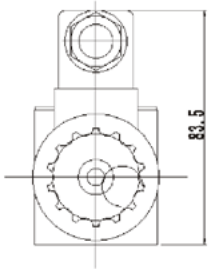
Working pressure (MPa) DC Solenoid operation

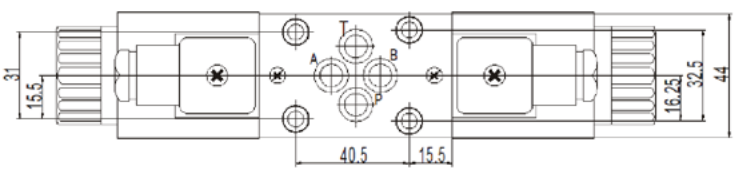


110V 220V	
Curve	Symbol
1	C D E/OF
2	E
3	L M
5	J
6	G
7	F P
8	H

External Dimensions



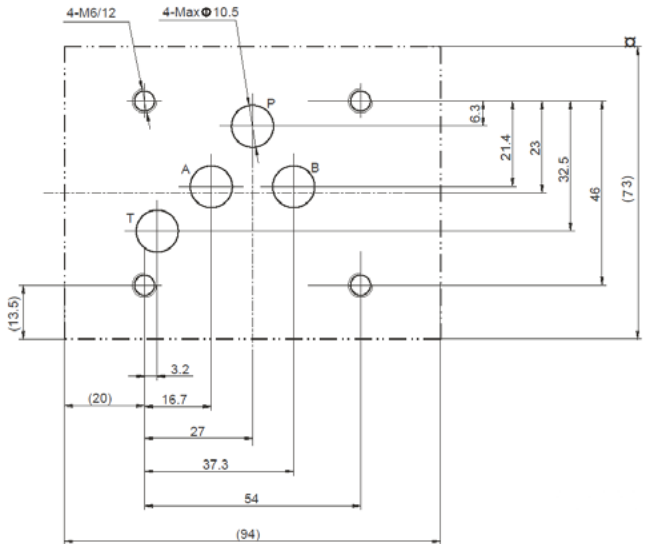




①②

Two positions Electrical operated directional control valve

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 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.