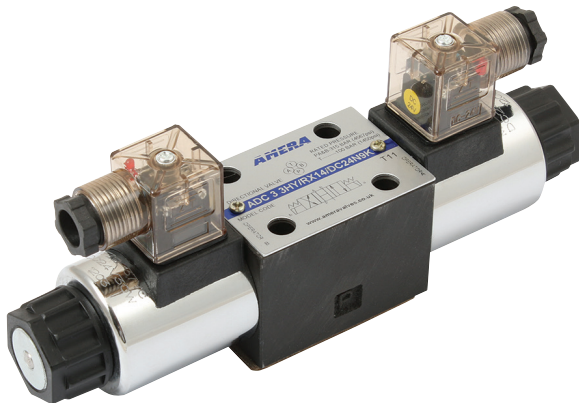




Electrical operated directional control valve

Technical specification



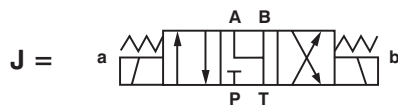
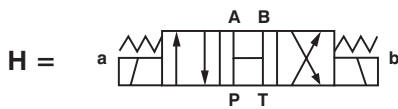
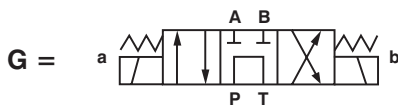
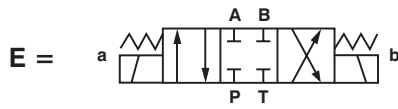
Specification		3	5		
Working pressure (bar)	Oil ports P,A,B	350	315		
	Oil ports T	100	100		
Max. Flow (L/min)		80	120		
Working fluid		Mineral oil; phosphate-ester			
Fluid temp. (°C)		-20~70			
Viscosity (mm ² /s)		2.8~100			
Working voltage (V)	DC	12	24		
	AC	110/50Hz	220/50Hz		
Max. Switch frequency (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 solenoids	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 $\beta_{10} \geq 75$.				

<p style="text-align: center;">ADC * * * * /Design/ * * * * *</p> <p>Electrical Operated Directional Control Valve</p> <hr/> <p>Specification ISO 4401 Size 3/5</p> <hr/> <p>Number of Positions</p> <hr/> <p>Function Type See Table on page 14</p> <hr/> <p>Spring Return Y = With D = Detent</p> <hr/> <p>Design RX14</p>	<p style="text-align: right;">Seal Type Blank = NBR V = Viton</p> <hr/> <p style="text-align: right;">Electrical Connection K = Connector With LED K1 = Connector Without LED K2 = No Connectors</p> <hr/> <p style="text-align: right;">Manual Override N9 = With N8 = Without N7 = Water Proof</p> <hr/> <p style="text-align: right;">Voltage 24V 48V 110V 240V</p> <hr/> <p style="text-align: right;">Current AC/DC</p>
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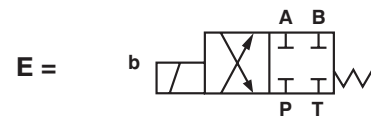
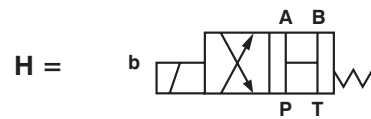
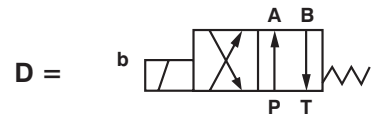
Electrical operated directional control valve

Code symbol

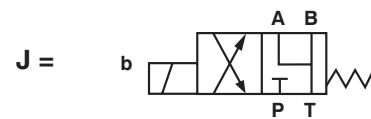
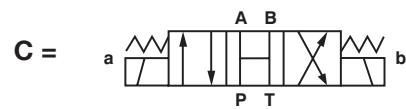
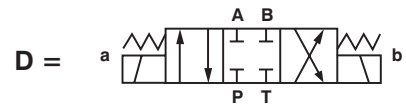
Spring Return 3 Position



Spring Return 2 Position

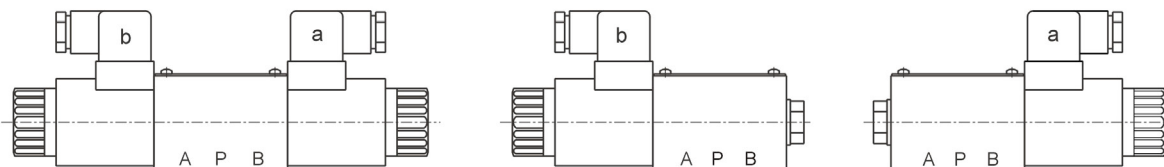


Detent



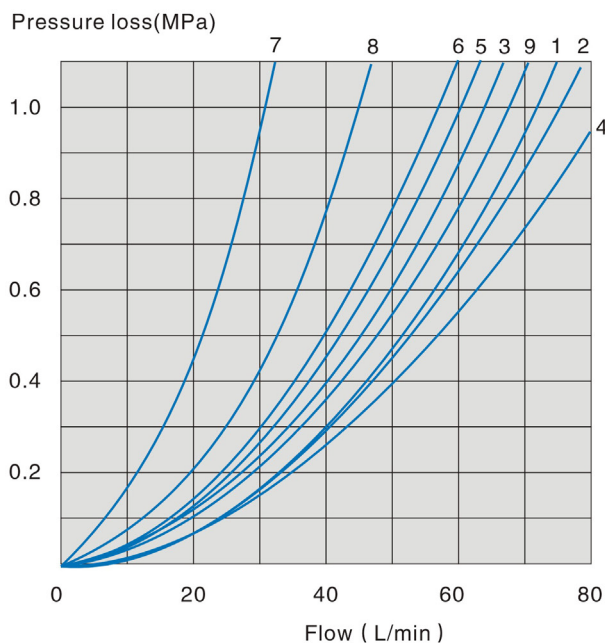
Electrical operated directional control valve

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 3GY symbol Valve.

Size 3 Specification Performance curve (Measured at $\nu=41\text{mm}^2/\text{s}$ and $t=50^\circ\text{C}$)



Function code	Direction			
	P→A	P→B	A→T	B→T
2H	1	1	3	1
2D	5	5	3	3
2E	5	5	3	3
2C	1	1	3	1
3E	3	3	1	1
3G	6	6	9	9
3H	2	4	2	2
3J	1	1	2	1

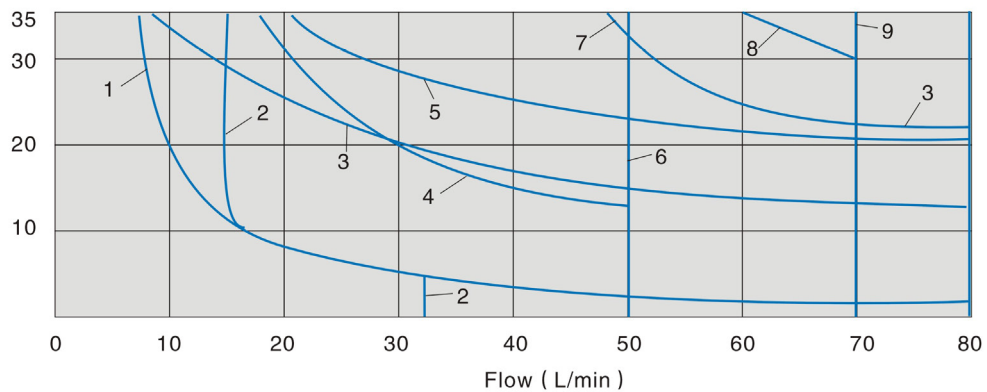
Electrical operated directional control valve

Size 3 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.

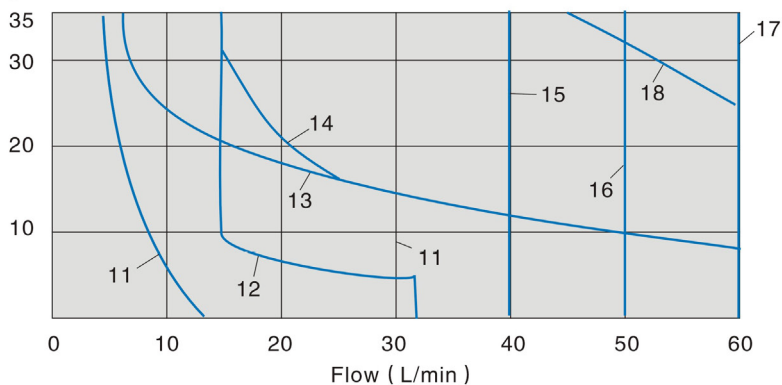
DC solenoid operation DC D24, D1 2, B220, B110		AC solenoid operation AC A110, A220, 50HZ	
Curve	Symbol	Curve	Symbol
5	3J	15	3G
6	3G 3H	16	3H
8	2H 2D	17	3J 3E
10	3E 2D	18	2D 2C 2E

Working pressure(MPa)



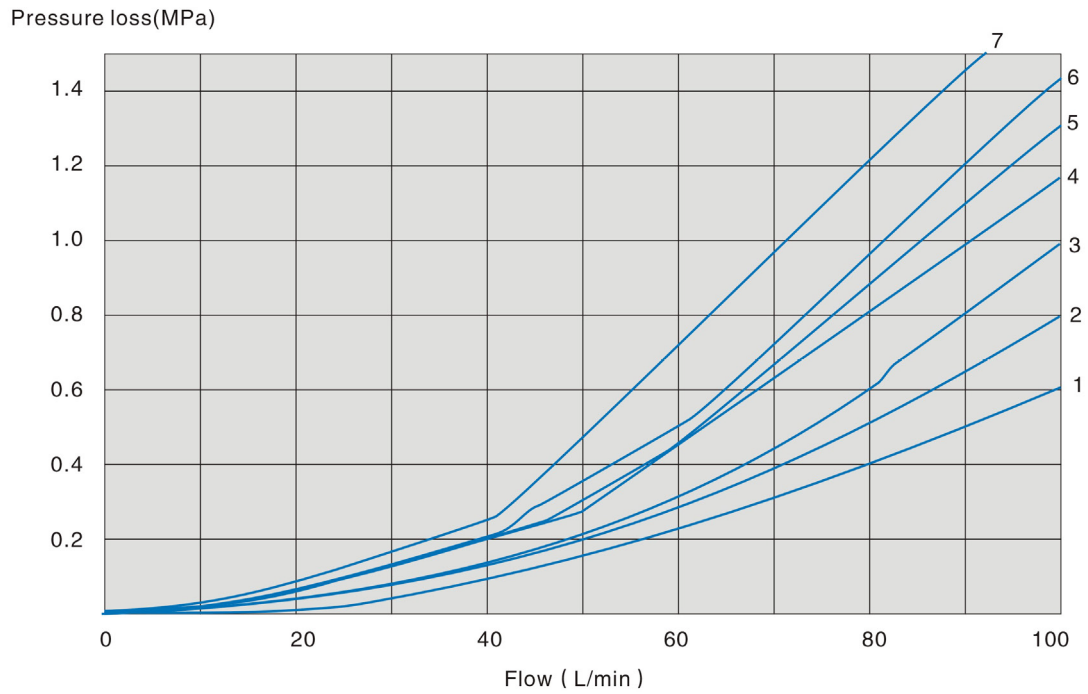
- 1) No manual emergency operation
- 2) Oil return from actuator to oil tank

Working pressure(MPa)



Electrical operated directional control valve

Size 5 Specification Performance curve (Measured at $v=41\text{mm}^2/\text{s}$ and $t=50^\circ\text{C}$)



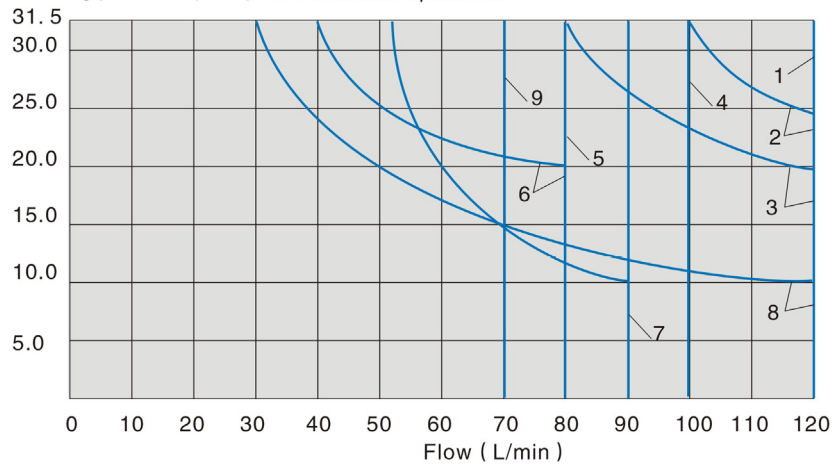
Function code	Direction			
	P→A	P→B	A→T	B→T
2H 2D	2	2	3	3
3E	2	2	4	4
3G	3	3	4	6
3H	1	1	4	5

Electrical operated directional control valve

Size 5 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)

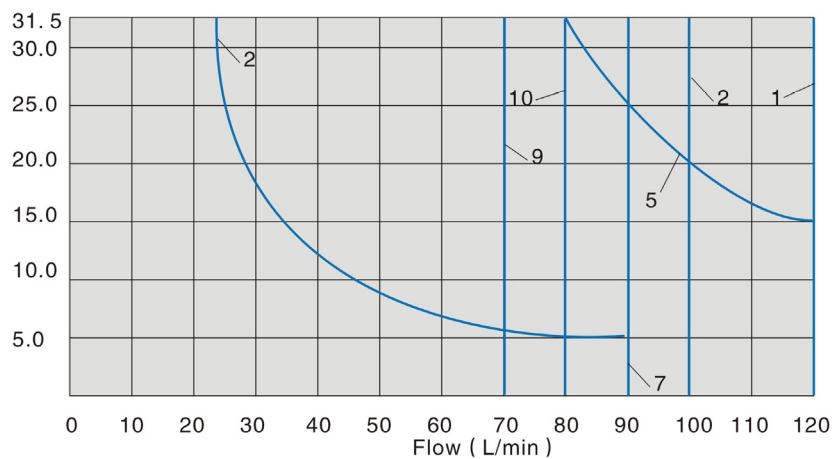
With regard to the four-way valve, the normal flow data as shown is get from the regular use of two directions of the flow (e.g.P to A, and simultaneous return flow from B to T). See tables. If only one flow direction is needed, for example: When a four port valve which is closed up port A or port B,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

Working pressure(MPa) DC solenoid operation



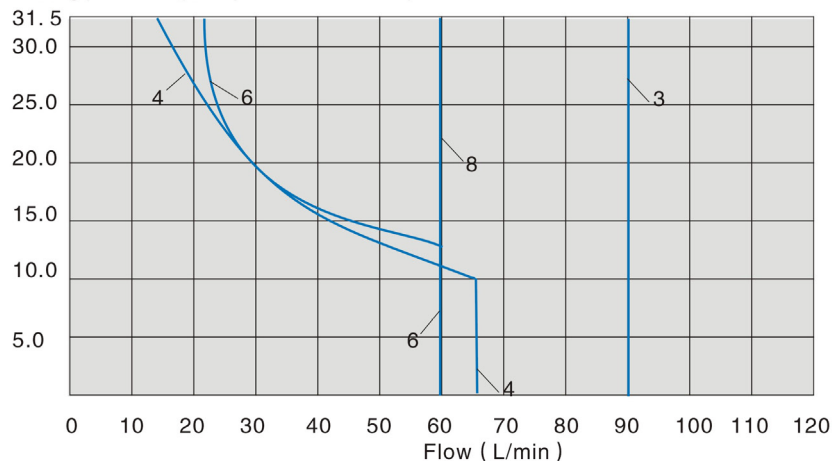
Curve	Symbol
1	2DY 2HY 2DD
2	3EY
3	3JY
4	3HY
6	3GY

Working pressure(MPa) AC solenoid operation



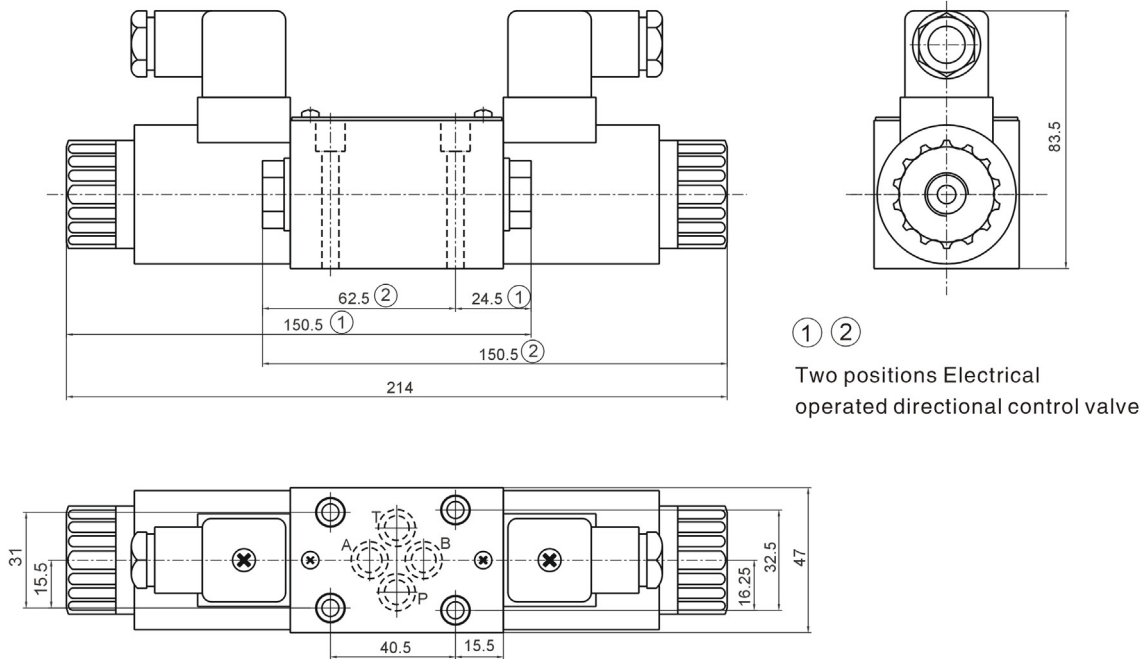
110V,50Hz; 120V,60Hz; 220V,50Hz; 240V,60Hz;	
Curve	Symbol
1	2DY 2HY 2DD
2	3EY
5	3JY
6	3GY
9	3HY

Working pressure(MPa) AC solenoid operation



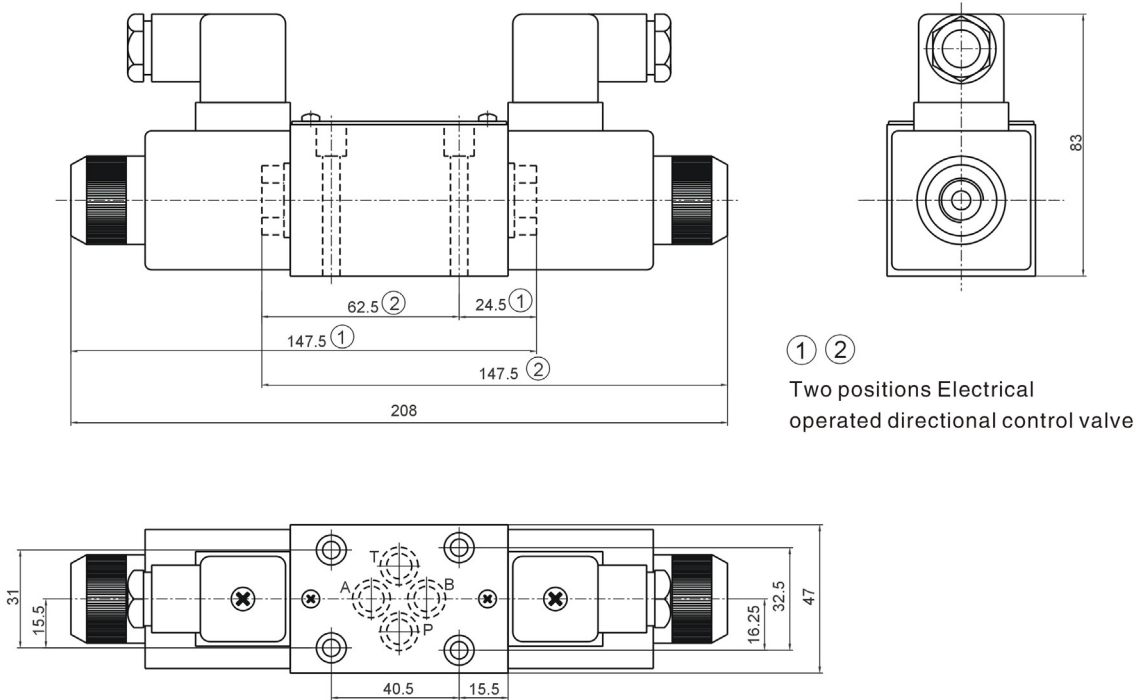
Electrical operated directional control valve

External dimensions (Size 3 Direct current plug type)



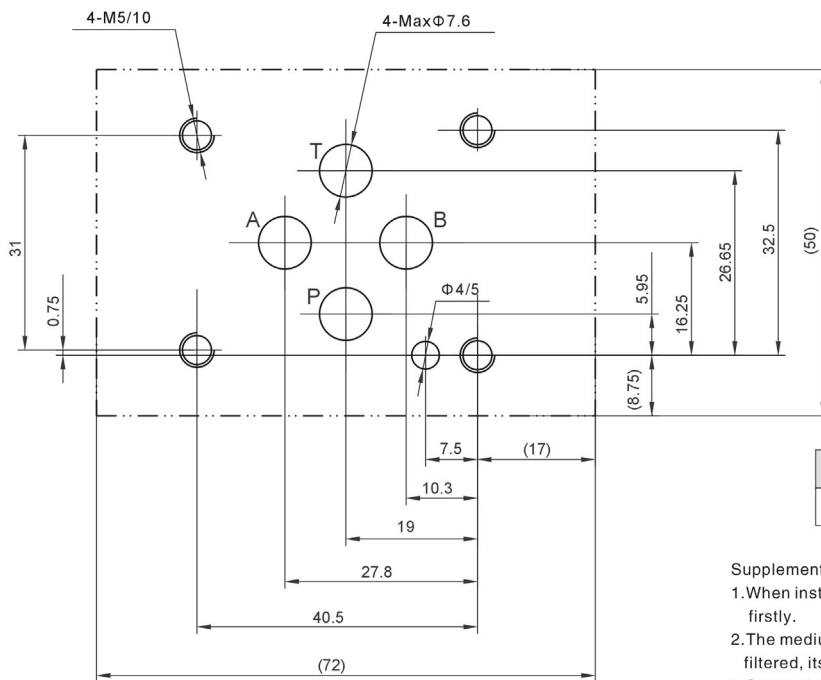
Electrical operated directional control valve

External dimensions (Size 3 Alternating current plug type)



Electrical operated directional control valve

Size 3 of subplate oil port

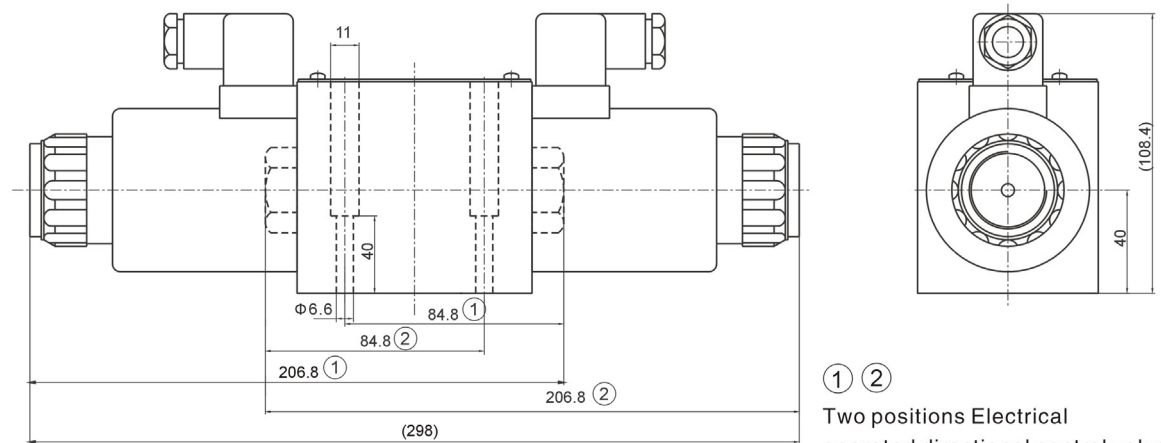


Mounting screw	Amount	Tighten torque
M5x45-10.9	4	9Nm

Supplementary explanation

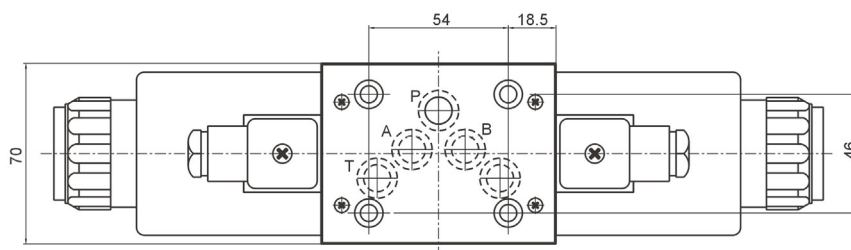
1. When installing the product, considering horizontal position firstly.
2. The medium used in the hydraulic system must be filtered, its accuracy at least 20 μm.
3. Screw should be according to the parameters in catalogue.
4. The surface, connecting with the valve, should be Ra0.8 roughness, and 0.01/100mm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

External dimensions (Size 3 Direct current plug type)



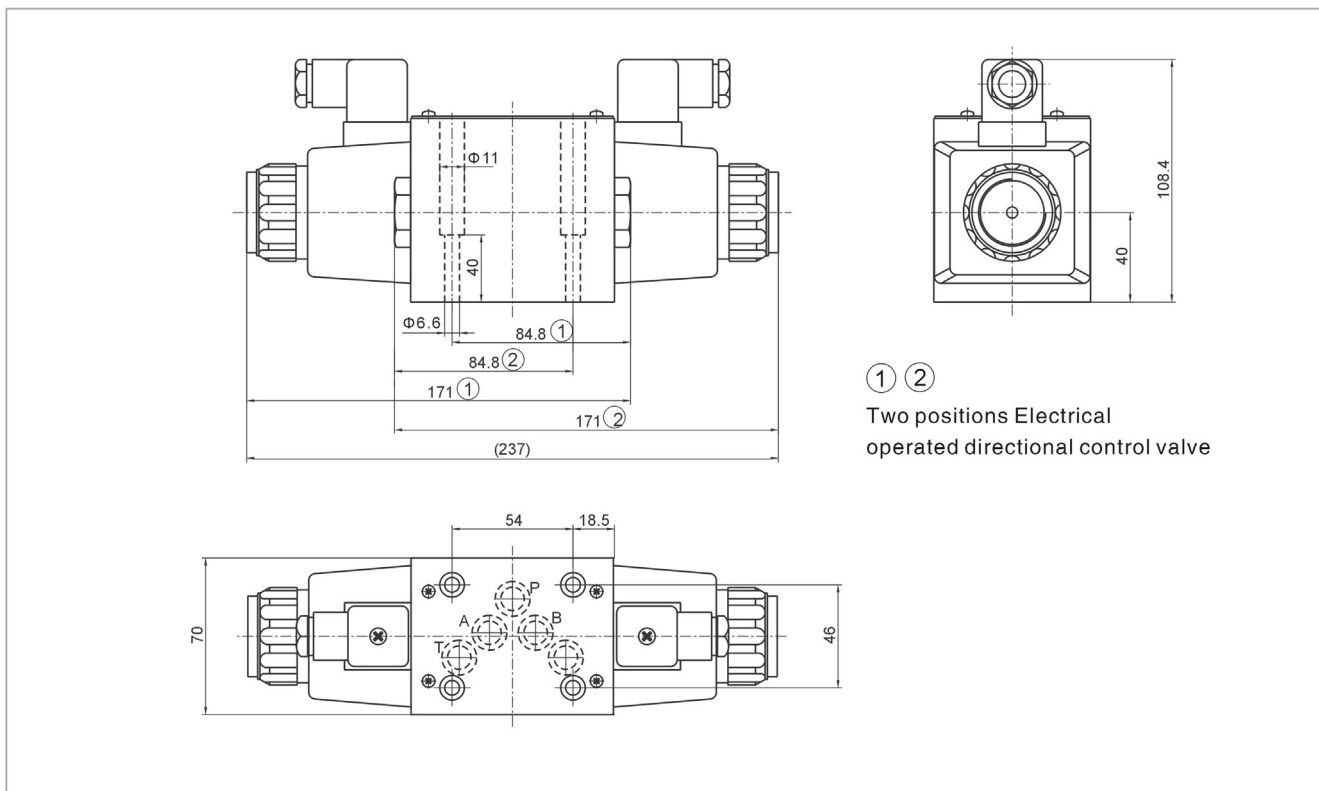
① ②

Two positions Electrical operated directional control valve

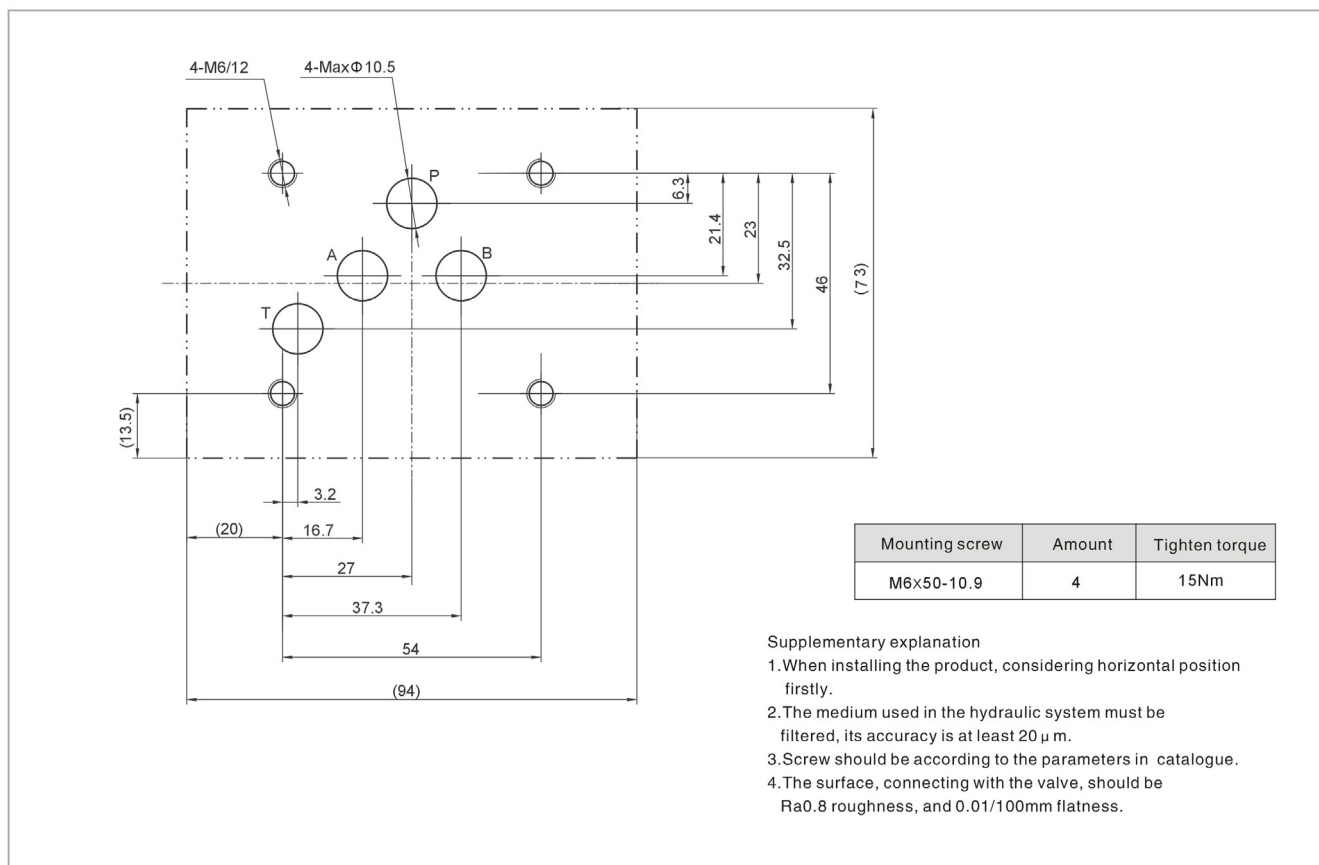


Electrical operated directional control valve

External dimensions (Size 5 Alternating current plug type)



Size 5 of subplate oil port



Modular flow control valve

Technical specification



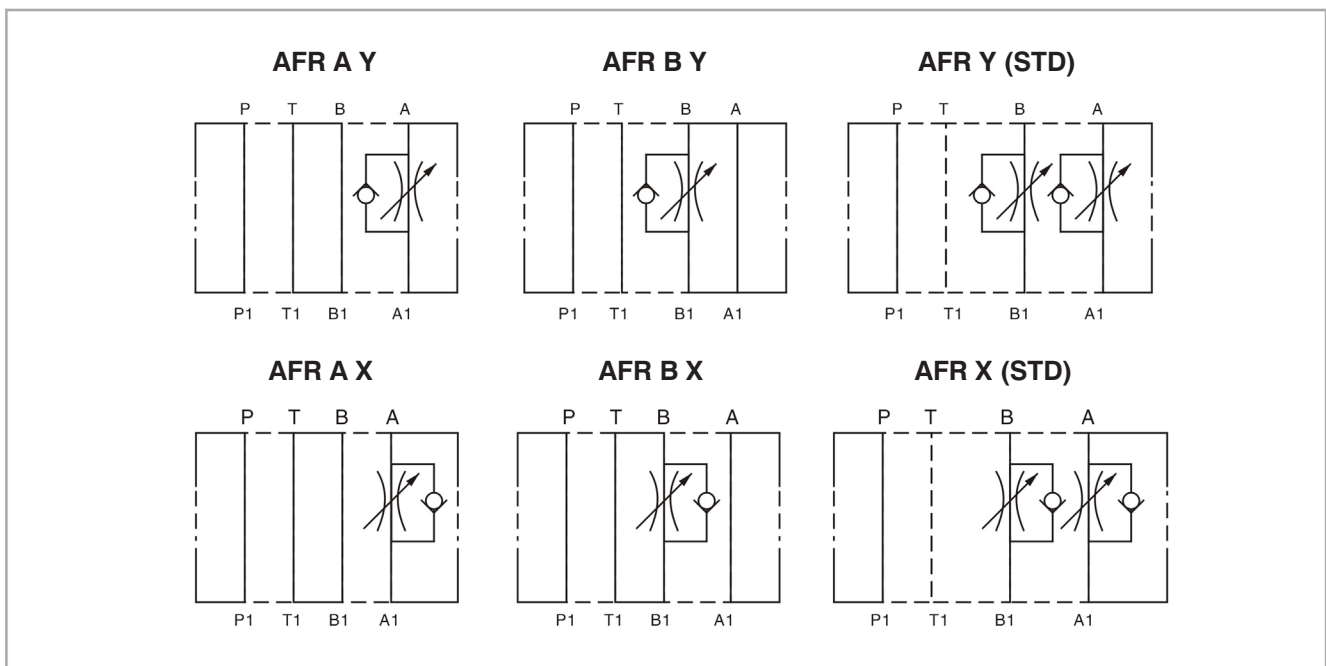
Specification	3	5
Max.pressure (bar)	315	
Max.flow (L/min)	30	50
Hydraulic fluid	Mineral oil;phosphate-ester	
Fluid temp (°C)	-20~70	
Viscosity (mm ² /s)	2.8~380	
Opening pressure (MPa)	a: 0.05	
Cleanliness	The maximum allowable cleanliness of the oil should be according to 9th degree of Standard NAS1638.It is suggested that the minimum filter rating should be $\beta 10 \geq 75$.	

Model instruction

AFR * * * * /Design/ * *

<p>Flow Restrictor</p> <p>Specification ISO Size 3 ISO Size 5</p> <p>Meter Meter In = X Meter Out = Y</p> <p>Throttle A & B = Blank B Port = B A Port = A P Port = P</p>	<p>Seals Blank = NBR V = FKM</p> <p>Control Fine = 1Q Standard = 2Q</p> <p>Design RX14</p> <p>Adjustment Type 2 - Hand Knob (STD)</p>
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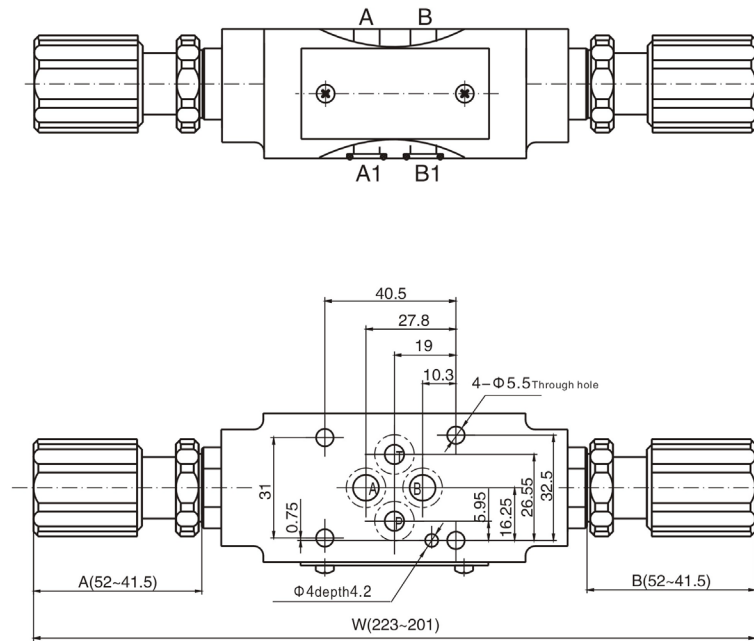
Code symbol



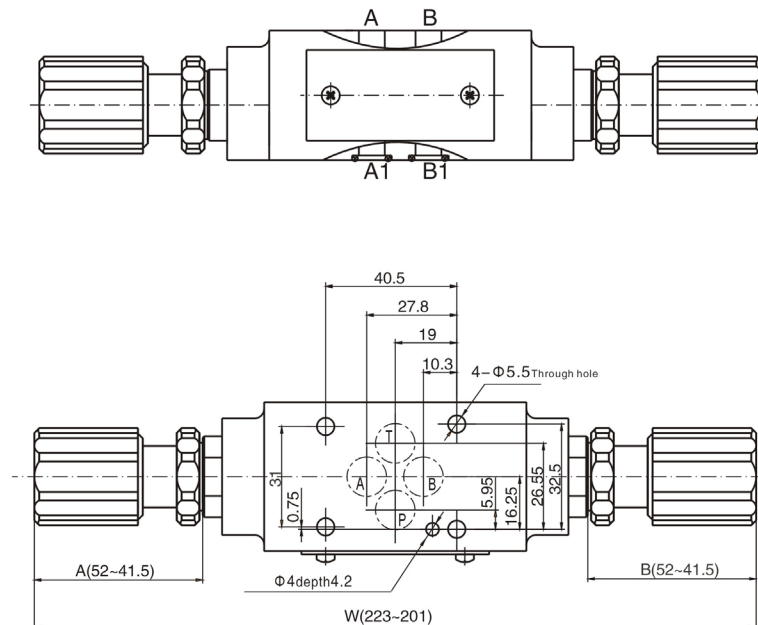
Modular flow control valve

External dimensions

AFR 3 Y



AFR 3 X

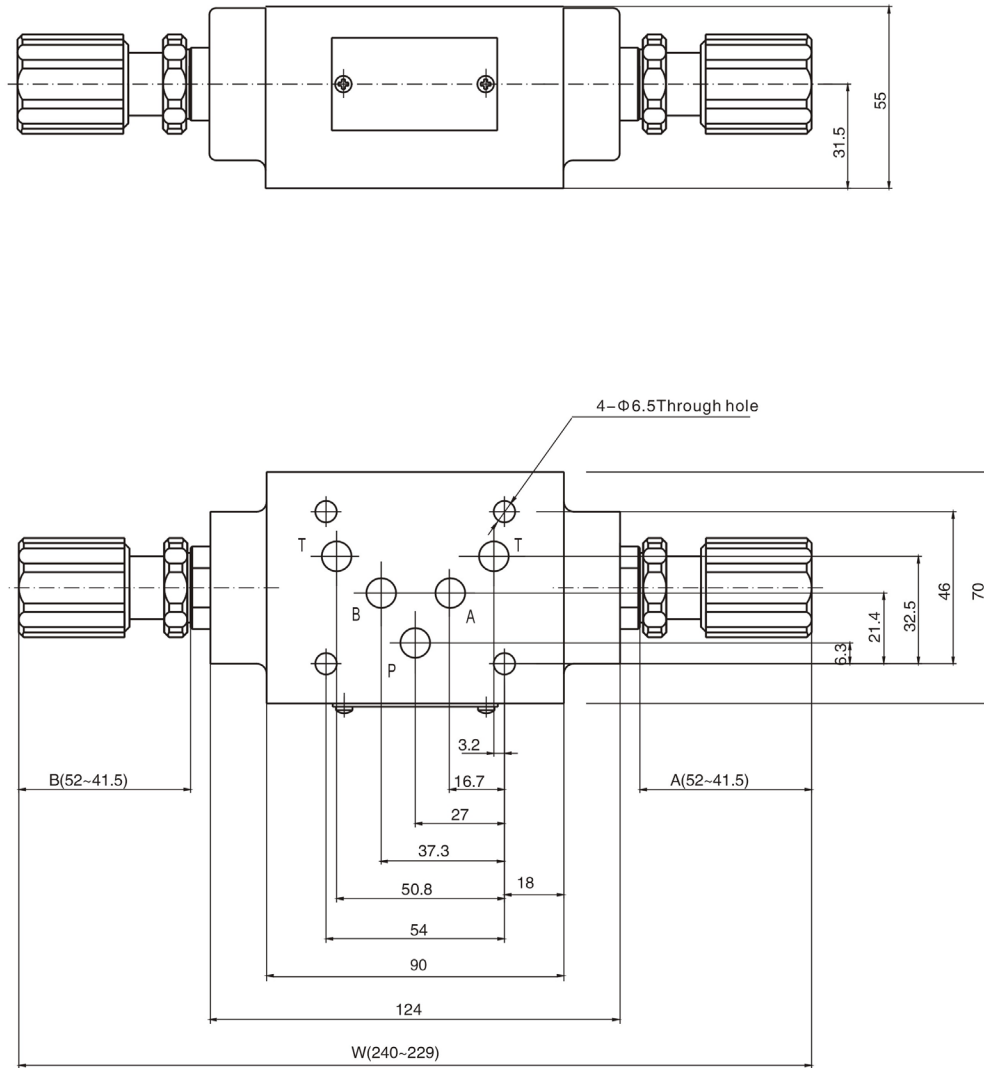


Notice: The surface, connecting with the valve, should be Ra0.8 roughness, and 0.01/100mm flatness.

Modular flow control valve

External dimensions

AFR 5 Y

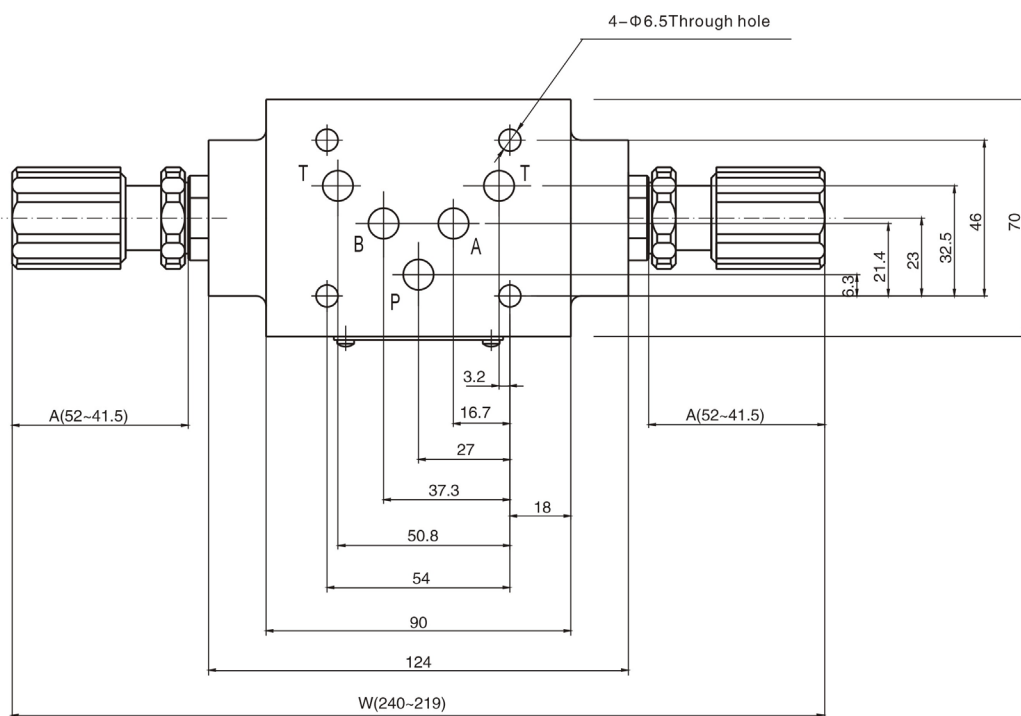
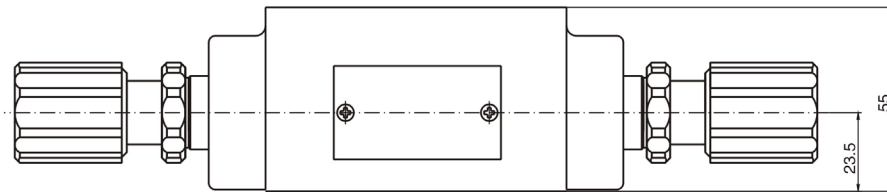


Notice: The surface, connecting with the valve, should be Ra0.8 roughness, and 0.01/100mm flatness.

Modular flow control valve

External dimensions

AFR 5 X



Notice: The surface, connecting with the valve, should be Ra0.8 roughness, and 0.01/100mm flatness.

Modular pilot-operated check valve



Technical specification

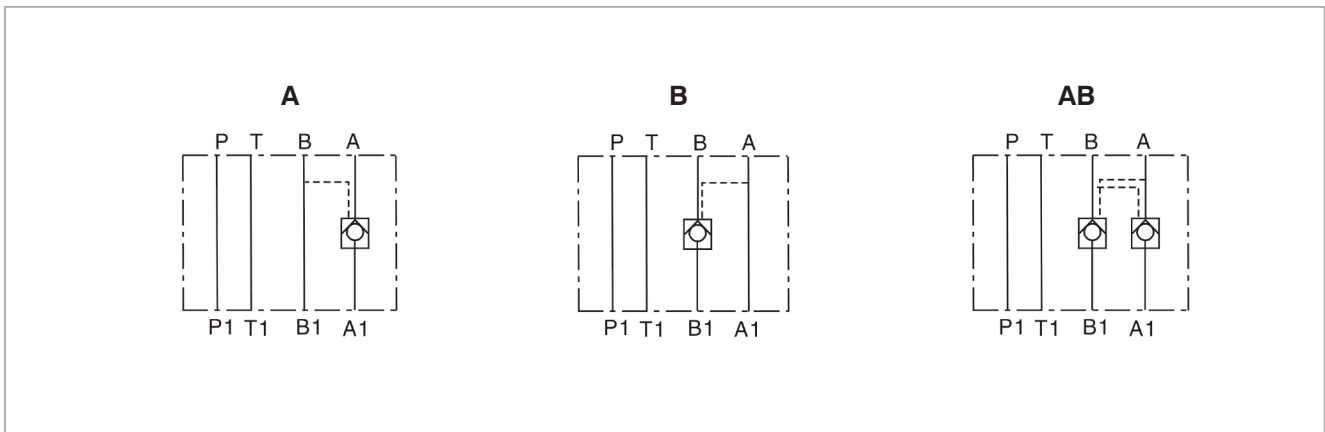
Specification	3	5
Max. working pressure (bar)	315	
Max. Flow (L/min)	60	100
Working fluid	Mineral oil; phosphate-ester	
Fluid temp. (°C)	-20~70	
Viscosity (mm ² /s)	2.8~500	
Opening pressure (MPa)	a0.05	b0.25 c0.4
Cleanliness	The maximum allowable cleanliness of the oil should be according to 9th degree of Standard NAS1638. It is suggested that the minimum filter rating should be $\beta_{10} \geq 75$.	

Model description

APOC * * * /Design/ *

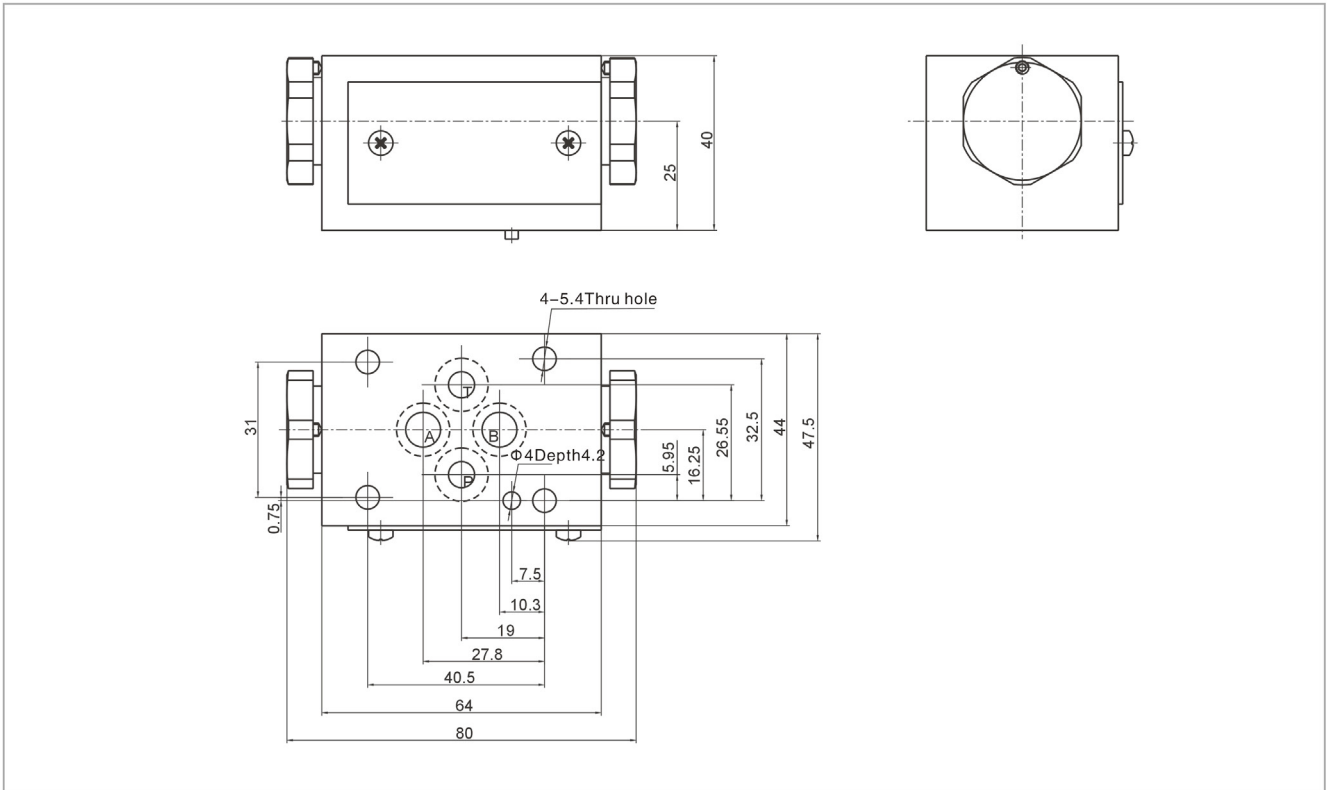
<p>Modular PO Check Valve</p> <hr/> <p>Specification ISO Size 3 ISO Size 5</p> <hr/> <p>Function A & B = AB A = A B = B</p>	<p style="text-align: right;">Seals Blank = NBR V = FKM</p> <p style="text-align: right;">Design RX14</p> <p style="text-align: right;">Cracking Pressure 1.5 bar = 1</p>
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Code symbol

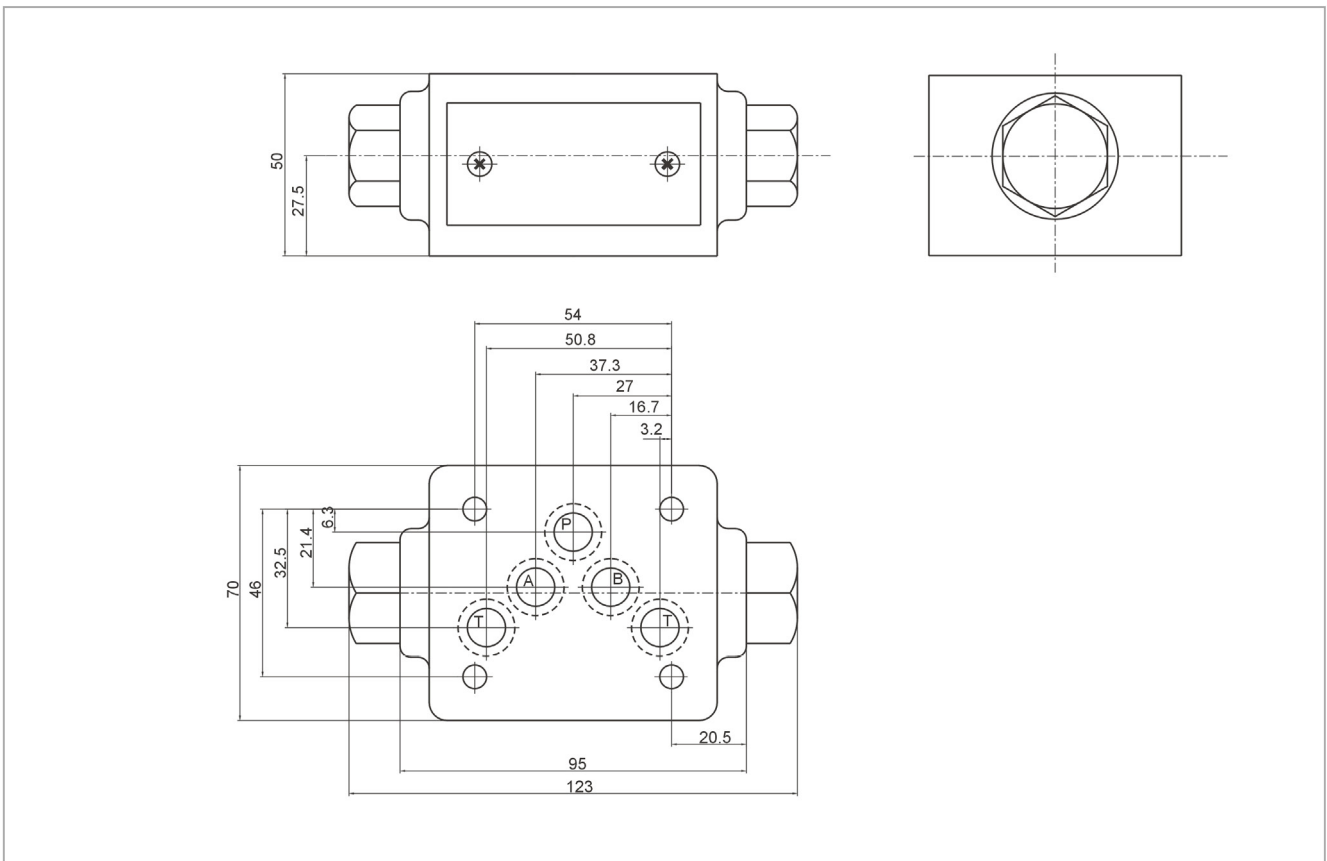


Modular pilot-operated check valve

Size 3 External dimensions



Size 5 External dimensions



Modular reducing valve

Technical specification

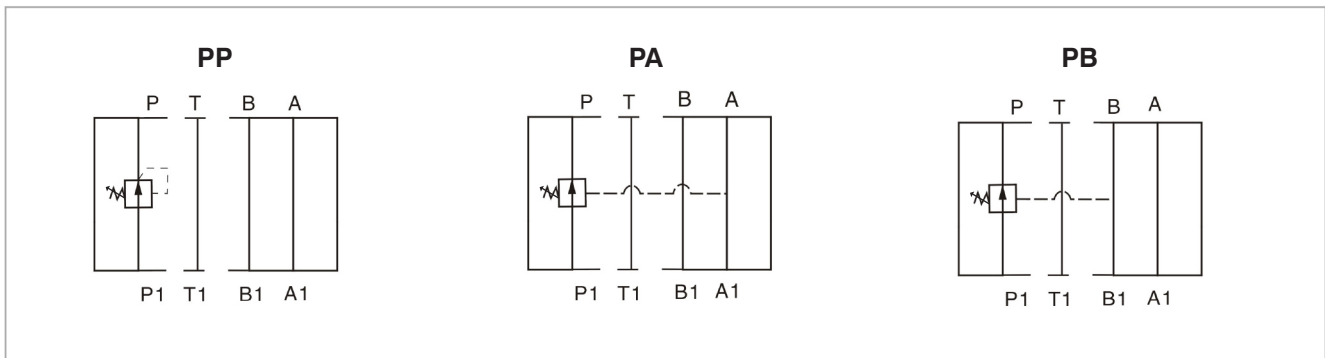


Specification	3	5
Max. working pressure (bar)	210	
Max. Flow (L/min)	35	70
Working fluid	Mineral oil; phosphate-ester	
Fluid temp. (°C)	-20~70	
Viscosity (mm ² /s)	12~380	
Cleanliness	The maximum allowable cleanliness of the oil should be according to 9th degree of Standard NAS1638. It is suggested that the minimum filter rating should be $\beta_{10} \geq 75$.	

Model description

ARD * * * /Design/ * *	
<p>Modular Pressure Reducing Valve</p> <hr/> <p>Specification ISO Size 3 ISO Size 5</p> <hr/> <p>Function P line pilot from P = PP P line pilot from A = PA P line pilot from B = PB</p> <hr/> <p>Adjustment Type Hand Knob = 2</p>	<p style="text-align: right;">Seals Blank = NBR V = FKM</p> <hr/> <p style="text-align: right;">Adjustment Range 3.5 - 75 bar = 75 10 - 150 bar = 150 20 - 210 bar = 210 (Size 5 Only) 8.5 - 200 bar = 200 (Size 5 Only) 8.5 - 315 bar = 315</p> <hr/> <p style="text-align: right;">Design RX14</p>

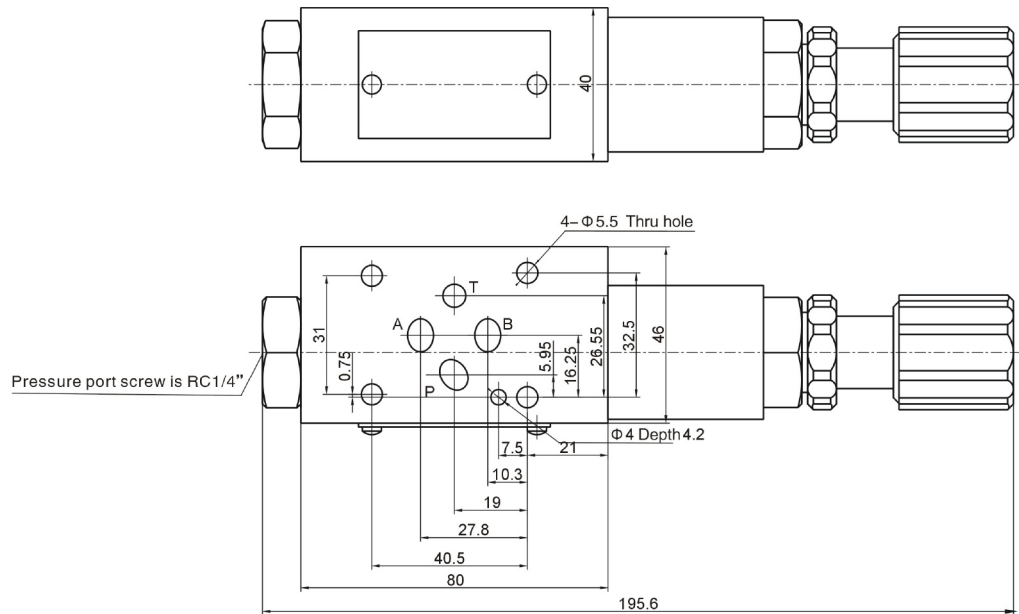
Code symbol



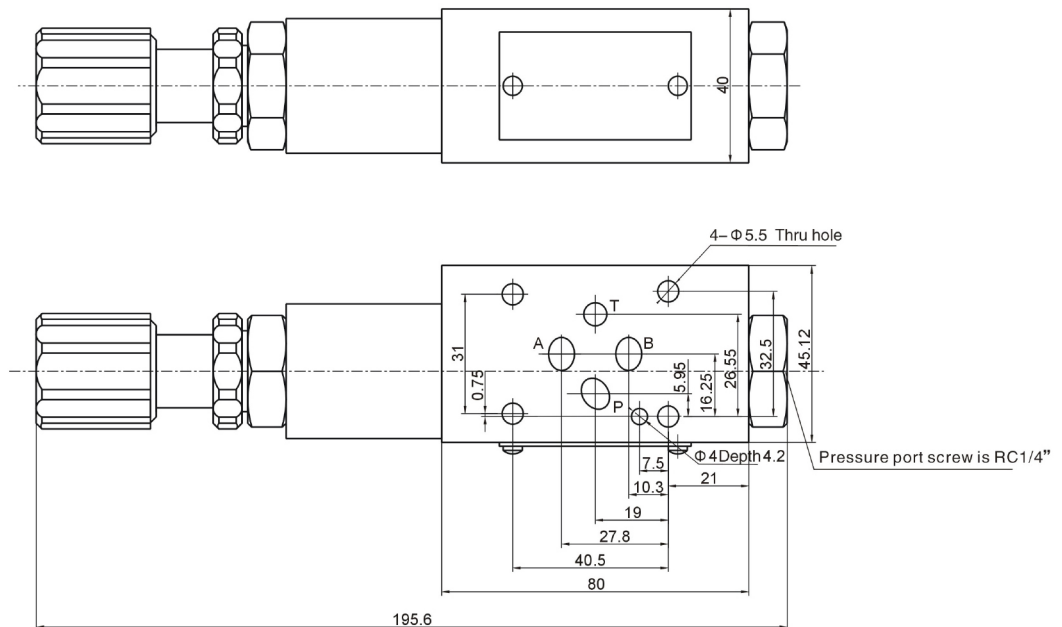
Modular reducing valve

Size 3 External dimensions

ARD 3 PA + PP



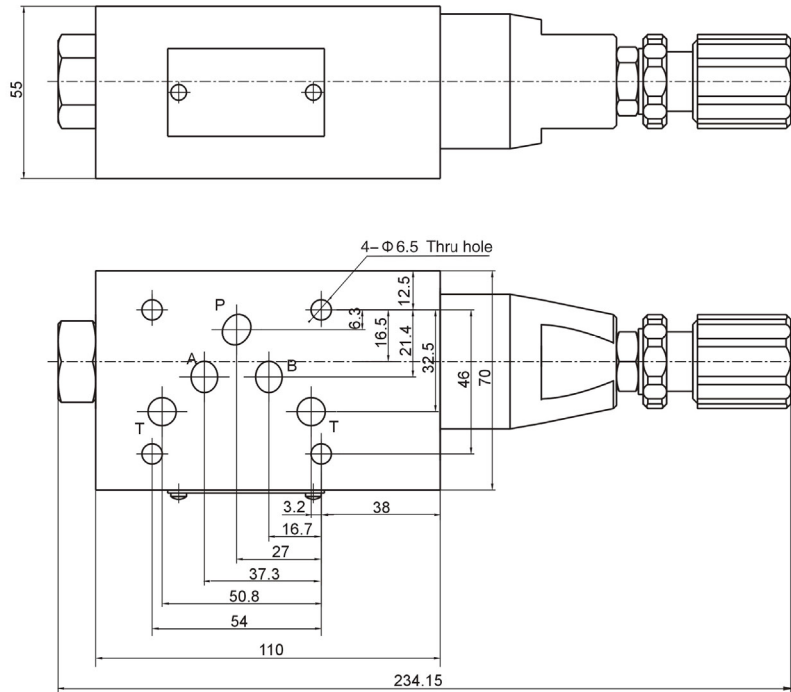
ARD 3 PB



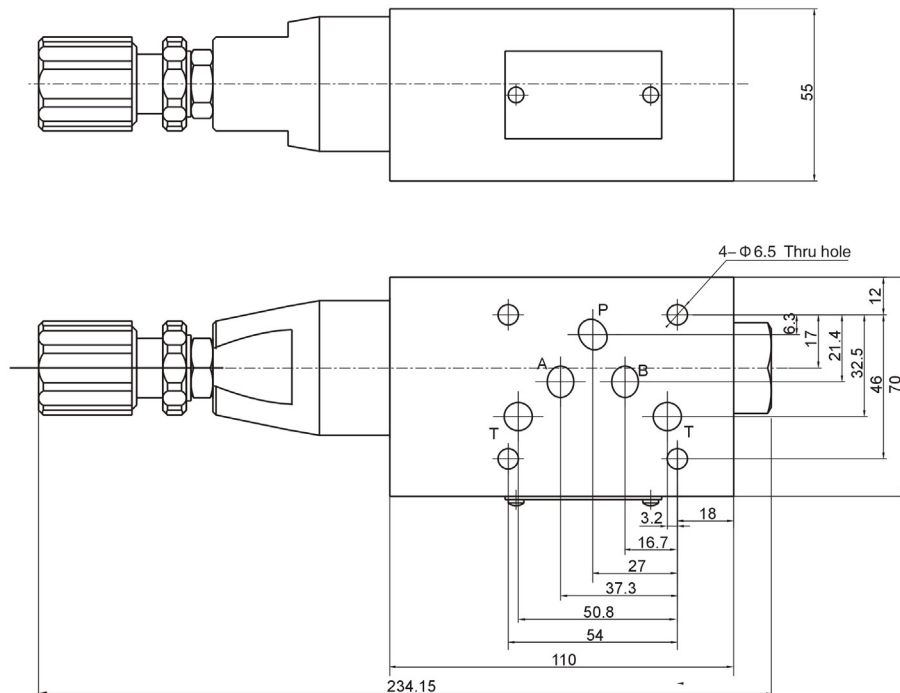
Modular reducing valve

Size 5 External dimensions

ARD 5 PA + PP



ARD 5 PB



Modular relief valve

Technical specification



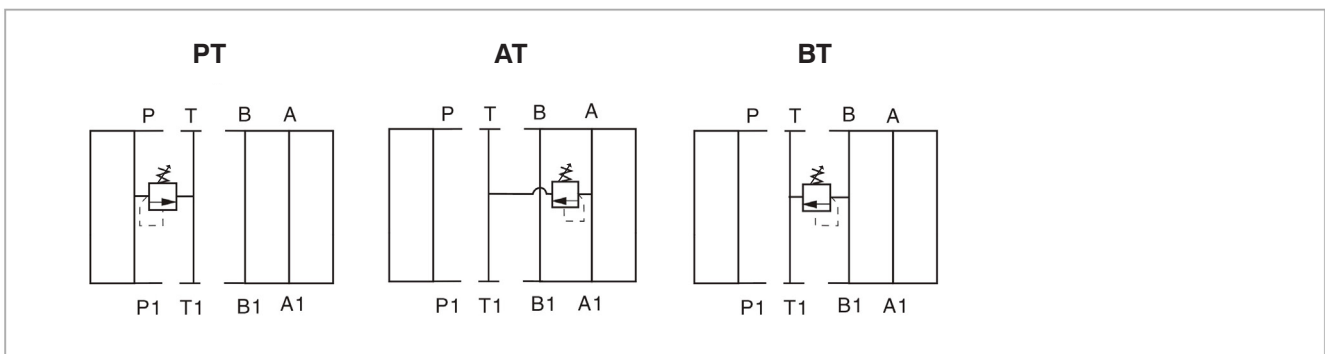
Specification	3	5
Max. working pressure (bar)	315	
Max. Flow (L/min)	35	70
Working fluid	Mineral oil; phosphate-ester	
Fluid temp. (°C)	-20~70	
Viscosity (mm ² /s)	12~380	
Cleanliness	The maximum allowable cleanliness of the oil should be according to 9th degree of Standard NAS1638. It is suggested that the minimum filter rating should be $\beta_{10} \geq 75$.	

Model description

ASPR * * * * */Design/ * *

<p>Modular Single Line Pressure Relief Valve S = Single D = Dual</p> <p>Specification ISO Size 3 ISO Size 5</p> <p>Single Function Relief from P-T = PT Relief from A-T = AT Relief from B-T = BT</p> <p>Adjustment Type Knob Adjustment = 1</p> <p>Dual Function Relief from P-T = PT Relief from A-T = AT Relief from B-T = BT</p> <p>Adjustment Type Knob Adjustment = 1</p>	<p style="text-align: right;">Seals Blank = NBR V = FKM</p> <p style="text-align: right;">Pressure Setting 3 to 50 bar = 50 3 to 100 bar = 100 10 to 200 bar = 200 50 to 315 bar = 315</p> <p style="text-align: right;">Design RX14</p>
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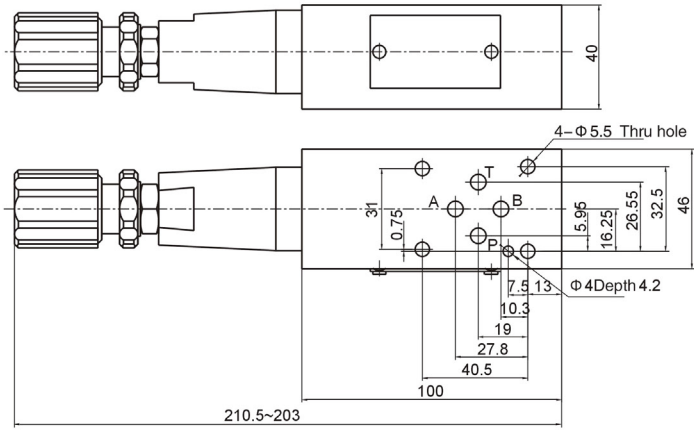
Code symbol



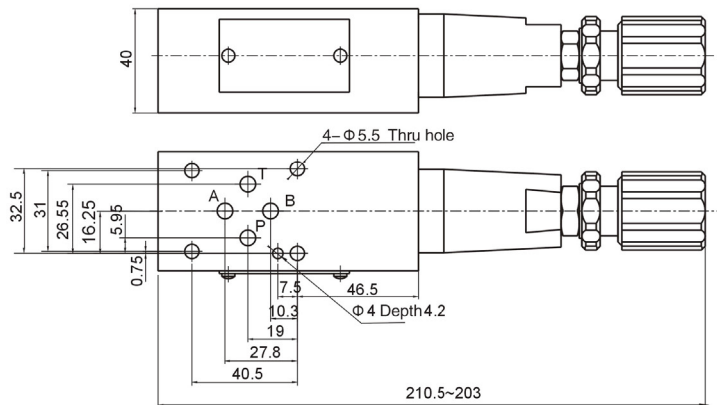
Modular relief valve

Size 3 External dimensions

ASPR 3 AT



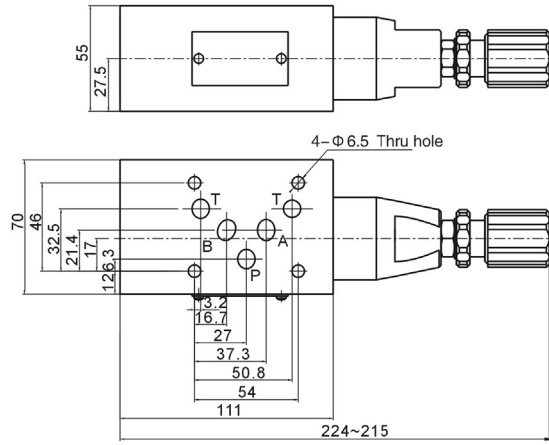
ASPR 3 BT + PT



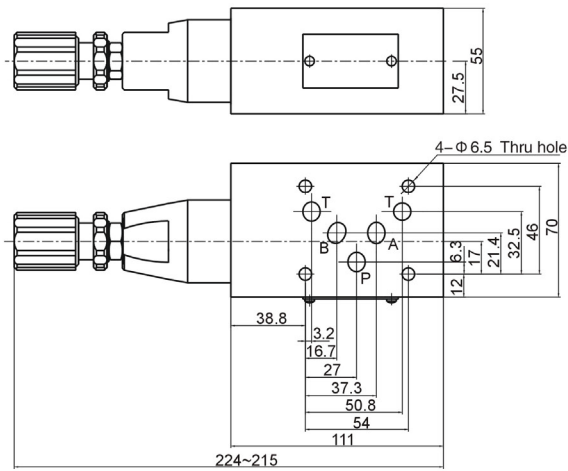
Modular relief valve

Size 5 External dimensions

ASPR 5 AT



ASPR 5 BT + PT



Modular check valve

Technical specification



Specification	3	5
Max. working pressure (bar)	315	
Max. Flow (L/min)	40	100
Working fluid	Mineral oil; phosphate-ester	
Fluid temp. (°C)	-20~70	
Viscosity (mm ² /s)	2.8~380	
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 $\beta_{10} \geq 75$.	

Model description

ADOC * * * * */Design/ * *

Modular Check Valve

Specification

ISO 4401
Size 3
Size 5

Check line

P=P
A=A
B=B
W=A+B

Remarks

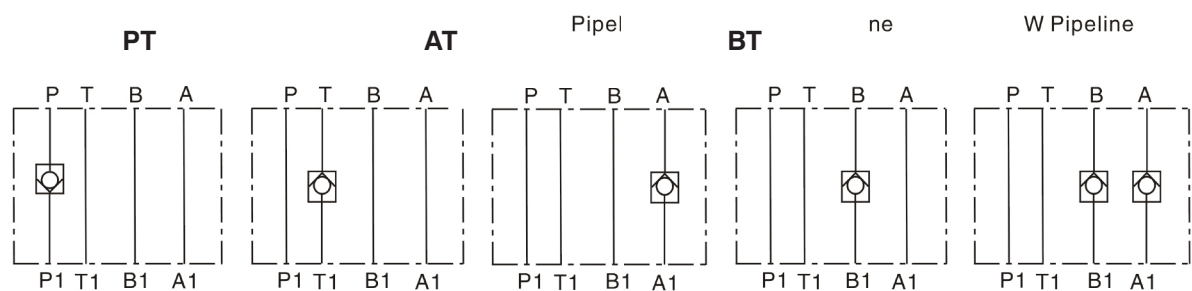
Seal Type

Blank = NBR
V = FKM
Rx14

Opening Pressure

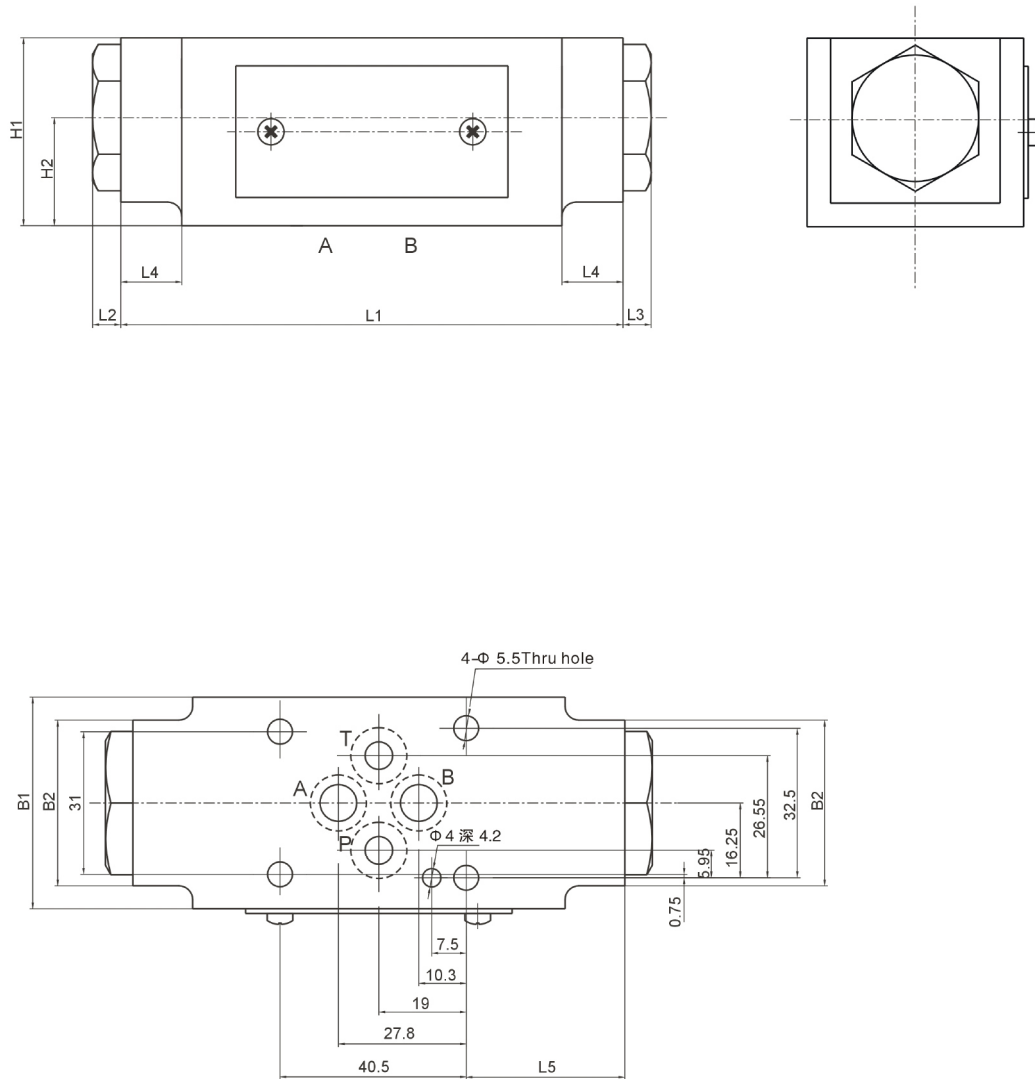
A = 0.5 bar

Code symbol



Modular check valve

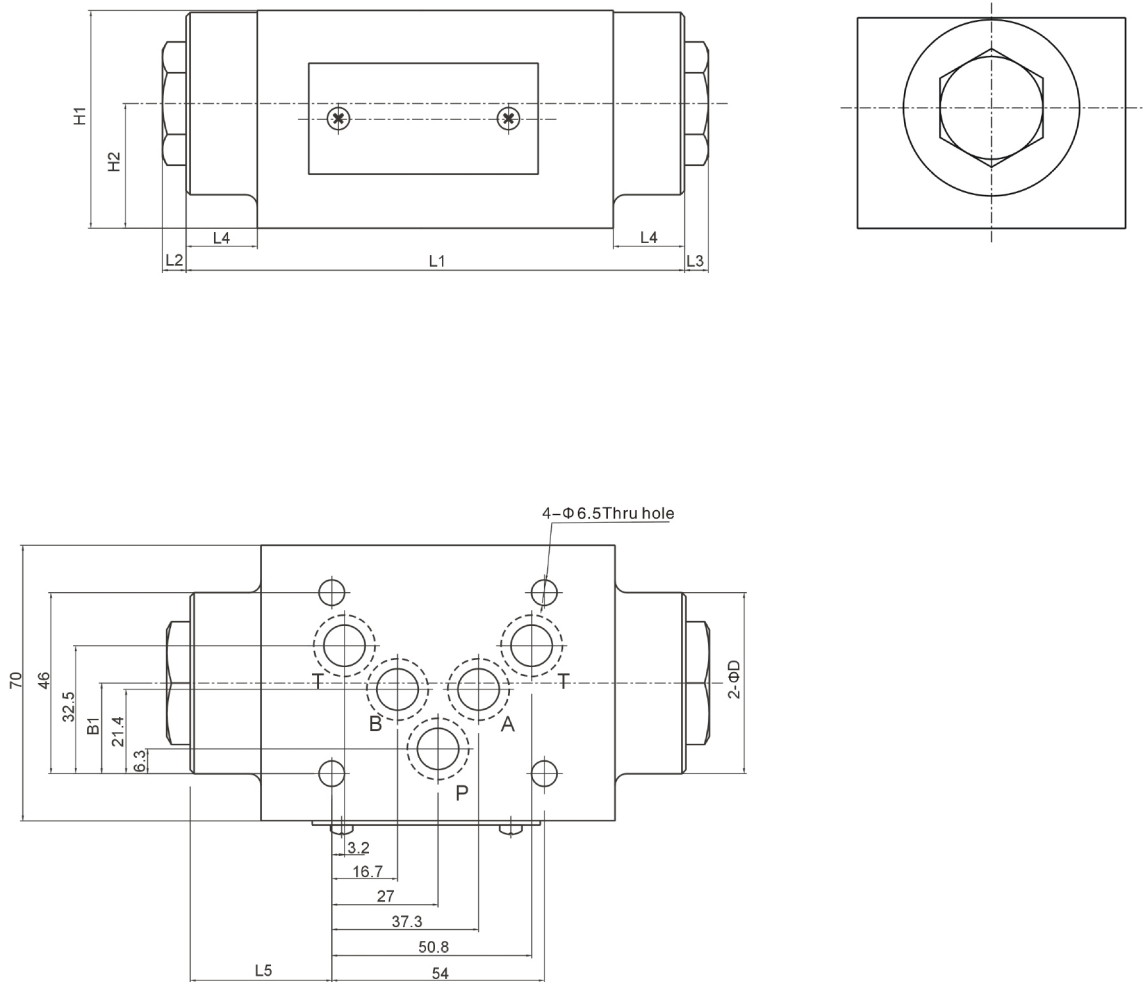
Size 3 External dimensions



Specification	B1	B2	H1	H2	L1	L2	L3	L4	L5
ADOC3-A	46	-	40	20	80	6	-	-	20
ADOC3-B	46	-	40	20	80	-	6	-	20
ADOC3-P	46	-	40	20	80	-	6	-	20
ADOC3-T	46	-	40	20	80	-	6	-	20
ADOC3-W	46	36	40	23	107	6	6	13	34.5

Modular check valve

Size 5 External dimensions



Specification	D	B1	H1	H2	L1	L2	L3	L4	L5
ADOC5-A	-	18.5	55	27.5	80	-	6	-	10
ADOC5-B	-	18.5	55	27.5	80	6	-	-	16
ADOC5-P	-	15.8	55	27.5	80	-	6	-	16
ADOC5-T	-	23	55	27.5	100	-	6	-	19.5
ADOC5-W	46	23	55	31.5	126	6	6	18	36