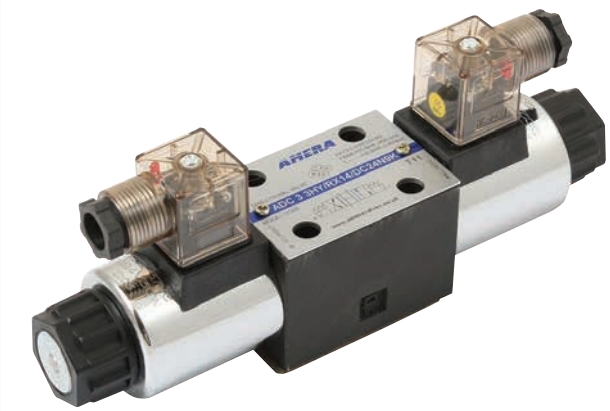
Electrical operated directional control valve

Technical specification



Specification		3	5
Working pressure (MPa)	Oil ports P、A、B	35	31.5
	Oil ports T	10	10
Max. Flow (L/min)		80	120
Working fluid		Mineral oil;phosphate-ester	
Fluid temp. (℃)		-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 β 10≥75.

ADC * * * * /Design/ * * * * * *

Electrical Operated Directional Control Valve

Specification
ISO 4401 Size 3/5

Number of Positions

Function Type
See Table on page 14

Spring Return
Y = With
N = Without
D = Detent

Design
RX14

Seal Type
Blank = NBR
V = Viton

Electrical Connection
K = Connector With LED
K1 = Connector Without LED
K2 = No Connectors

Manual Overide
N9 = With
N8 = Without
N7 = Water Proof

Voltage
24V
48V
110V
240V

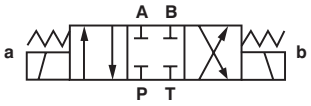
Current
AC/DC

Electrical operated directional control valve

Code symbol

Spring Return 3 Position

E =



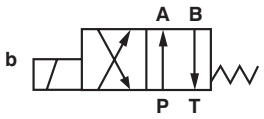
G =

H =

J =

Spring Return 2 Position

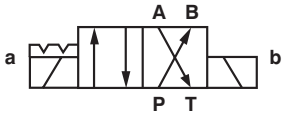
D =



H =

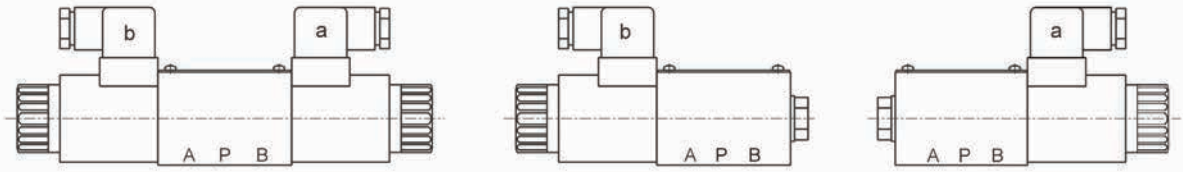
Detent

D =



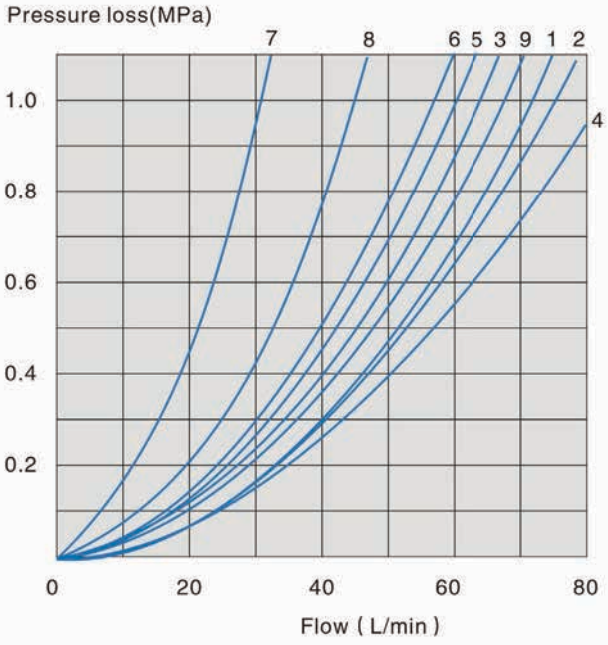
Electrical operated directional control valve

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 υ=41mm²/s and t=50℃)



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

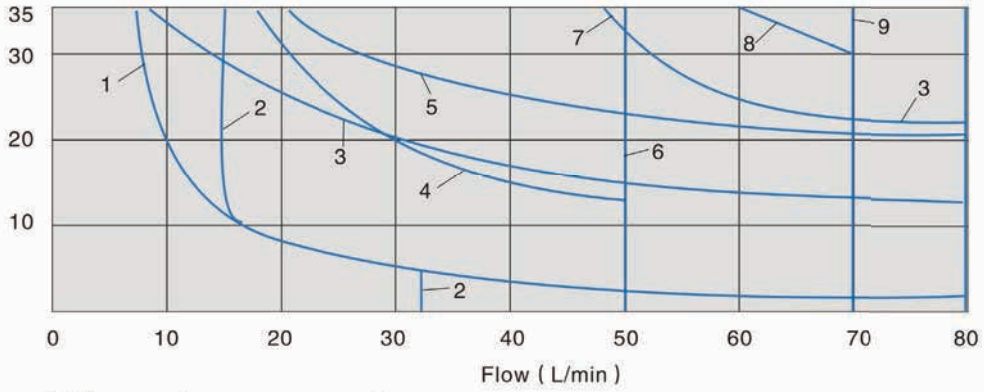
Electrical operated directional control valve

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.

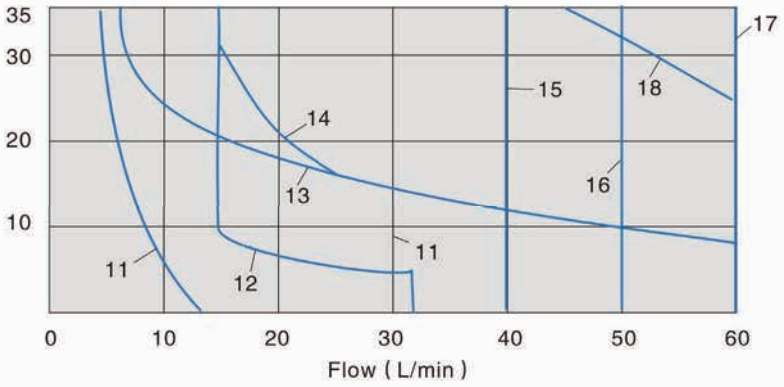
DC solenoid operation DC D24, D1 2, B220, B110		AC solenoid operation AC A110, A220, 50HZ	
Curve	Symbol	Curve	Symbol
5	3J	15	3G
6	3G 3H	16	3H
8	2H 2D	17	3J 3E
10	3E 2D	18	2D

Working pressure(MPa)



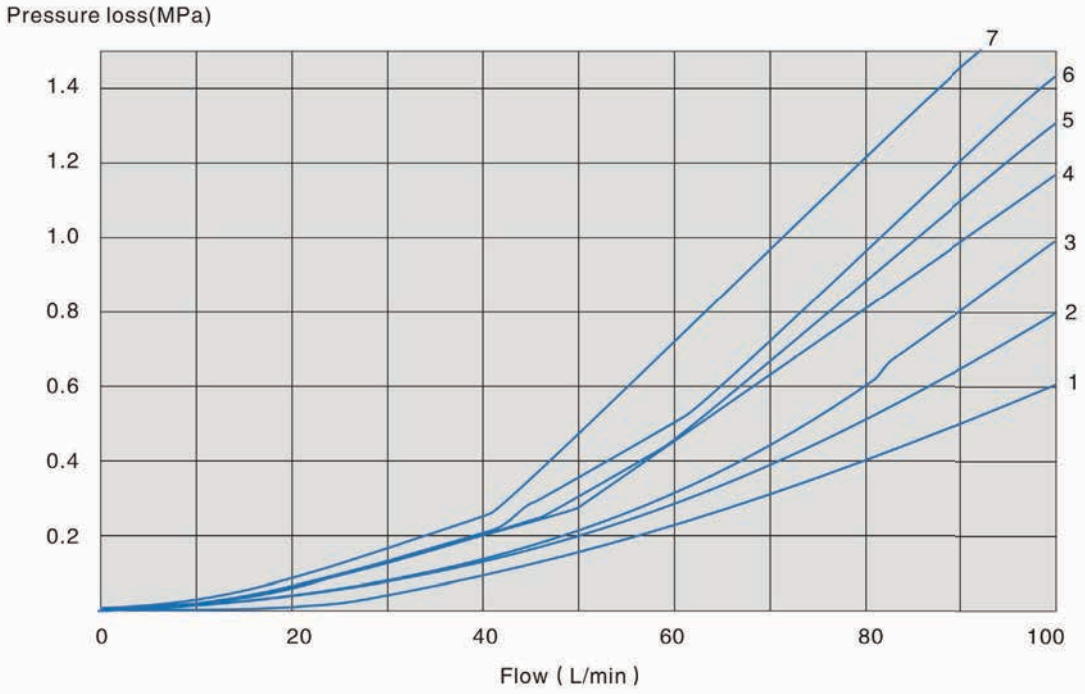
1) No manual emergency operation
2) Oil return from actuator to oil tank

Working pressure(MPa)



Electrical operated directional control valve

Size 5 Specification Performance curve (Measured at υ=41mm²/s and t=50℃)



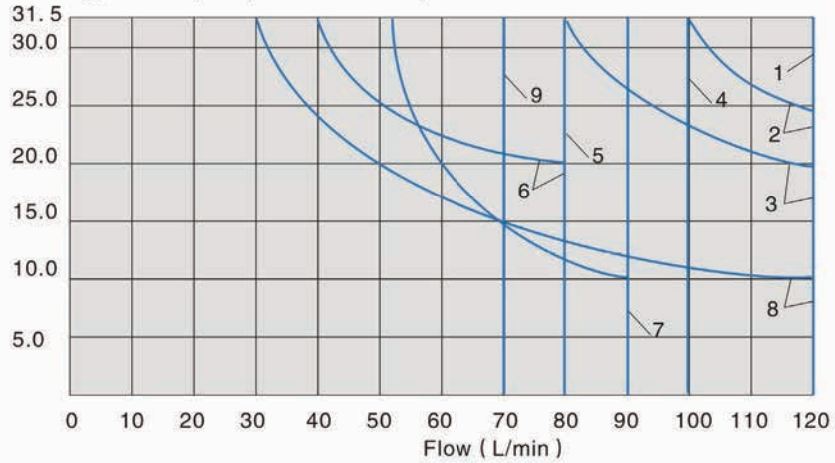
Function code	Direction			
	P→A	P→B	A→T	B→T
2H 2D	2	2	3	3
3E	2	2	4	4
3G	3	3	4	6
3H	1	1	4	5

Electrical operated directional control valve

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)

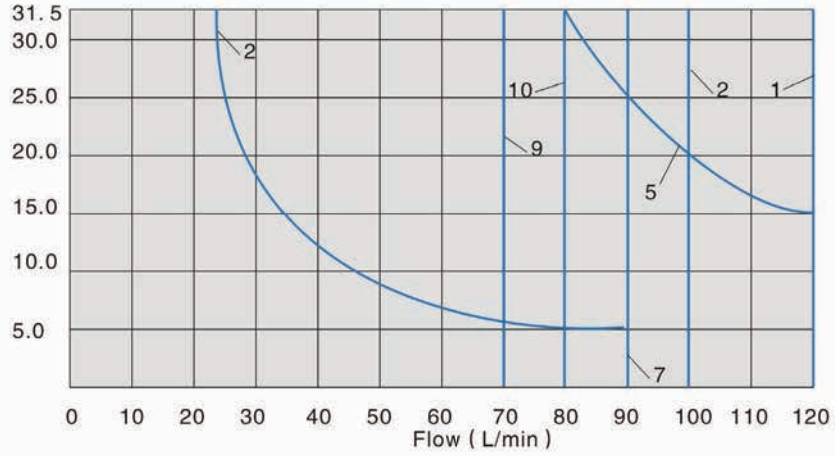
With regard to the four-way valve, the normal flow data as shown is get from the regular use of two directions of the flow (e.g.P to A, and simultaneous return flow from B to T). See tables. If only one flow direction is needed, for example: When a four port valve which is closed up port A or port B,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

Working pressure(MPa) DC solenoid operation



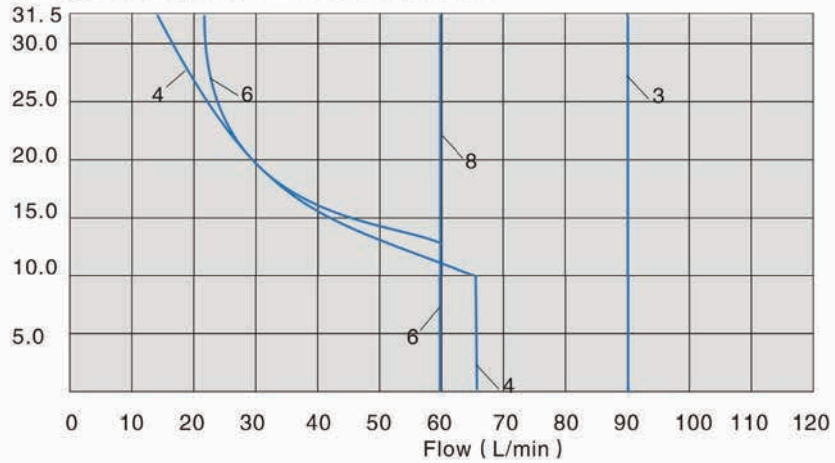
Curve	Symbol
1	2DY 2HY 2DD
2	3EY
3	3JY
4	3HY
6	3GY

Working pressure(MPa) AC solenoid operation



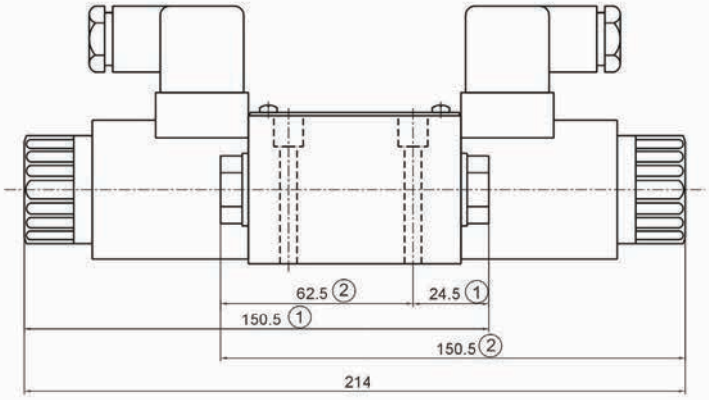
110V,50Hz; 120V,60Hz; 220V,50Hz; 240V,60Hz;	
Curve	Symbol
1	2DY 2HY 2DD
2	3EY
5	3JY
6	3GY
9	3HY

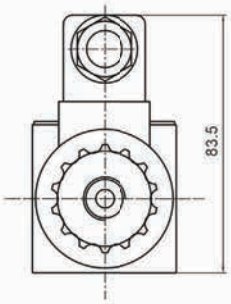
Working pressure(MPa) AC solenoid operation



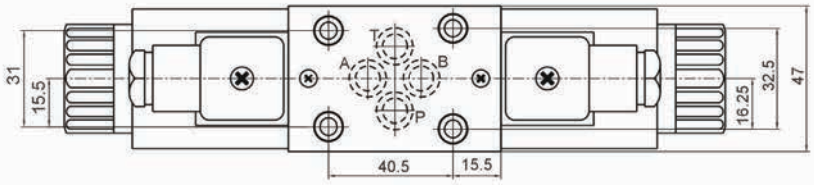
Electrical operated directional control valve

External dimensions (Size 3 Direct current plug type)

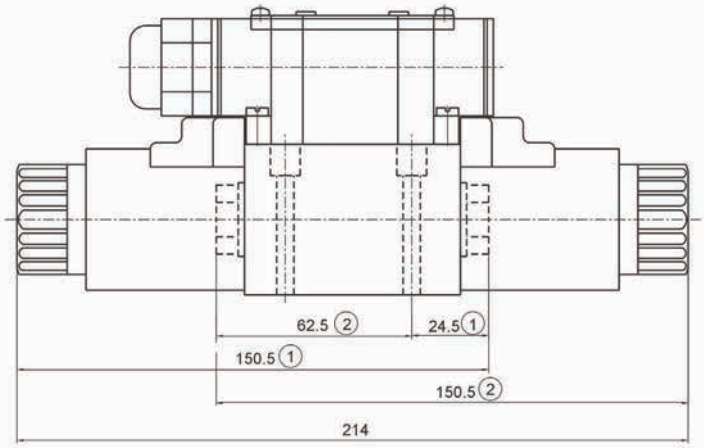


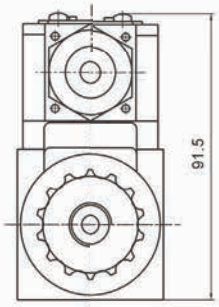


① ②
Two positions Electrical
operated directional control valve

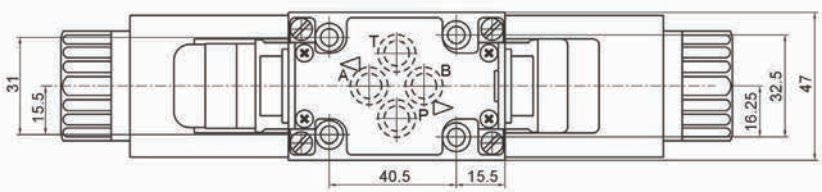


External dimensions (Size 3 Direct current wire box type)



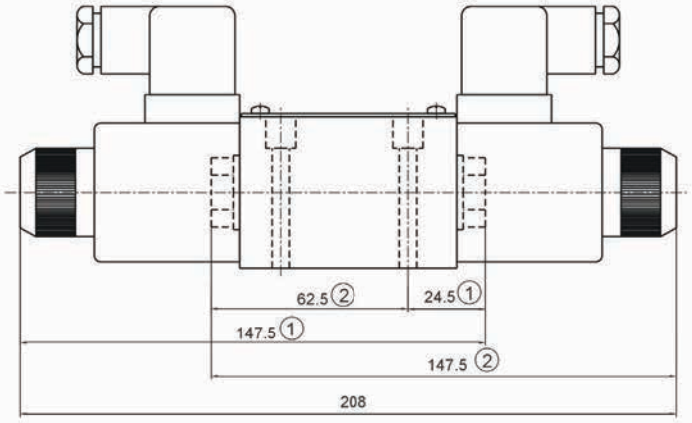


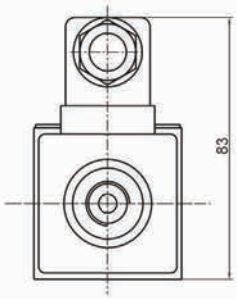
① ②
Two positions Electrical
operated directional control valve



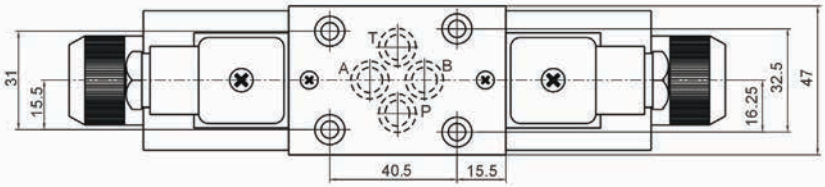
Electrical operated directional control valve

External dimensions (Size 3 Alternating current plug type)

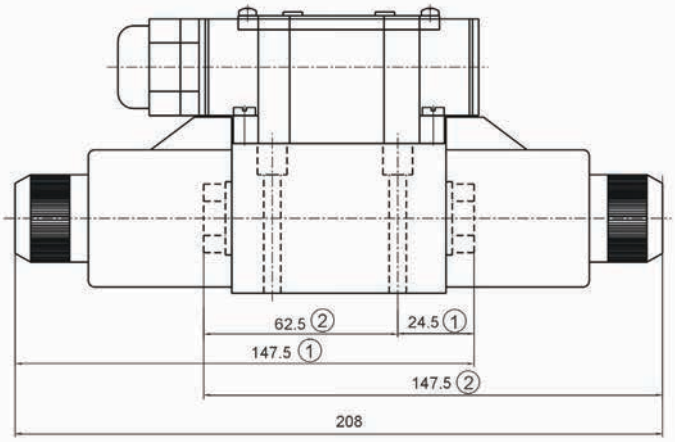


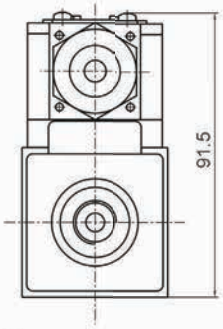


① ②
Two positions Electrical
operated directional control valve

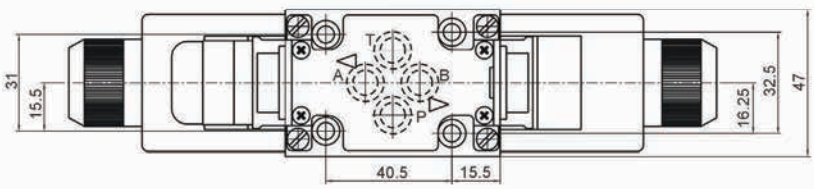


External dimensions (Size 3 Alternating current wire box type)



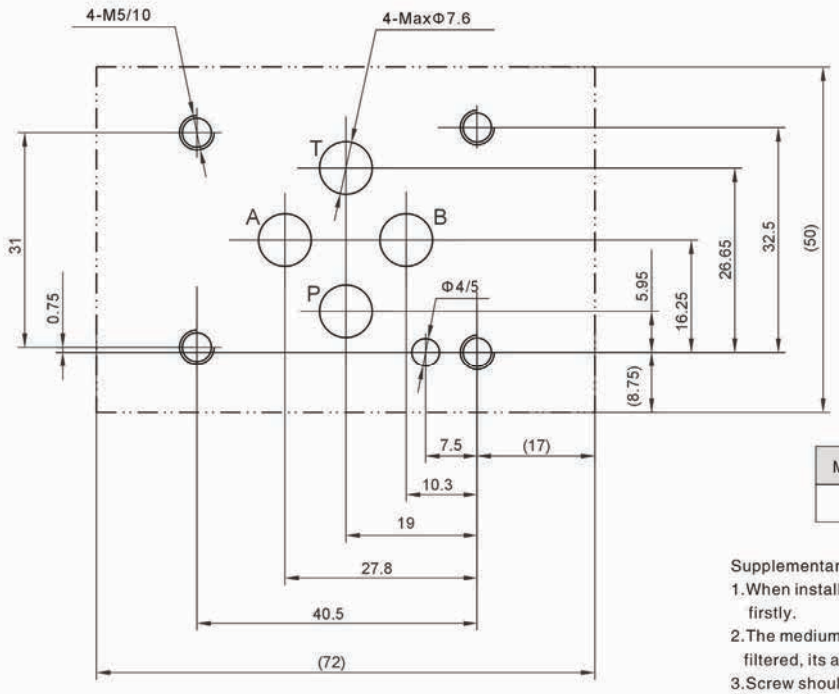


① ②
Two positions Electrical
operated directional control valve



Electrical operated directional control valve

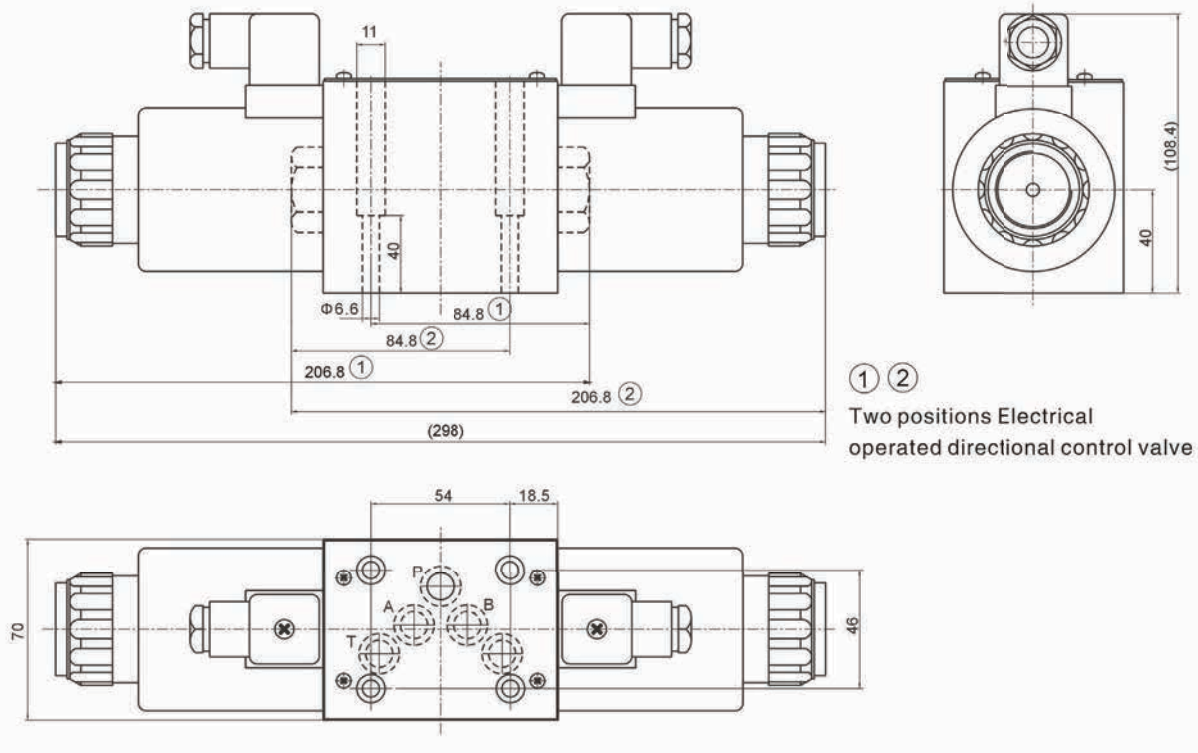
Size 3 of subplate oil port



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.

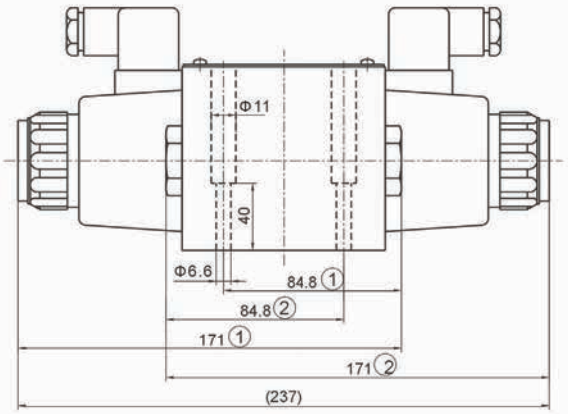
External dimensions (Size 3 Direct current plug type)

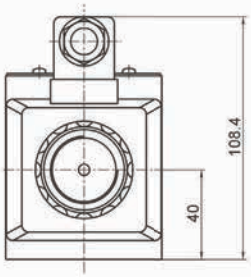


① ②
Two positions Electrical operated directional control valve

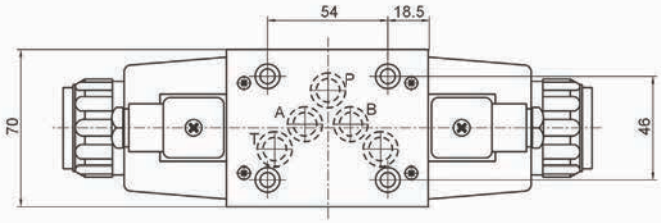
Electrical operated directional control valve

External dimensions (Size 5 Alternating current plug type)

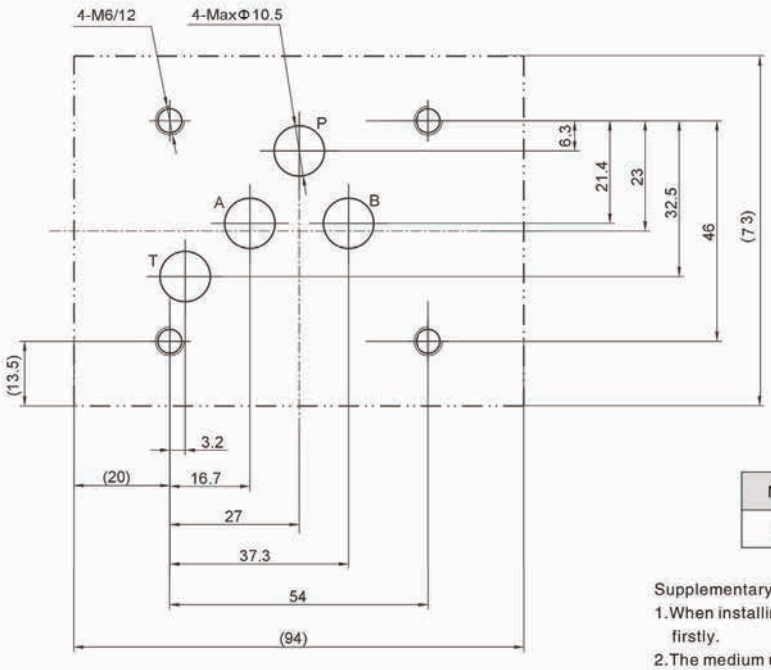




① ②
Two positions Electrical operated directional control valve



Size 5 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.

Modular flow control valve

Technical specification

Specification		3	5
Max.pressure	(MPa)	31.5	
Max.flow	(L/min)	30	50
Hydraulic fluid		Mineral oil;phosphate-ester	
Fluid temp	(℃)	-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 β 10≥75.	

Model instruction

AFR * * * * /Design/ * *

Flow Restrictor

Specification
ISO Size 3
ISO Size 5

Meter
Meter In = X
Meter Out = Y

Throttle
A & B = Blank
B Port = B
A Port = A
P Port = P

Seals
Blank = NBR
V = FKM

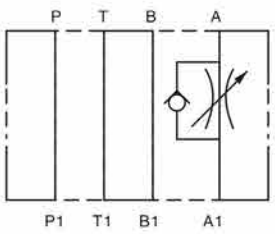
Control
Fine = 1Q
Standard = 2Q

Design
Rexroth = RX14

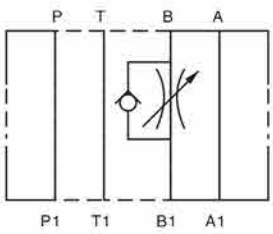
Adjustment Type
2 - Hand Knob (STD)

Code symbol

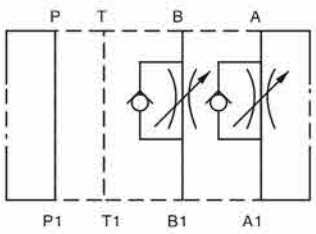
AFR A Y



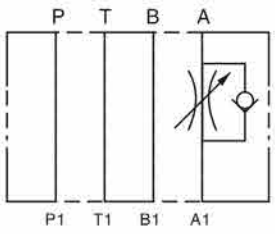
AFR B Y



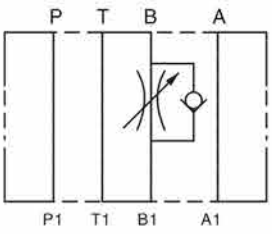
AFR Y (STD)



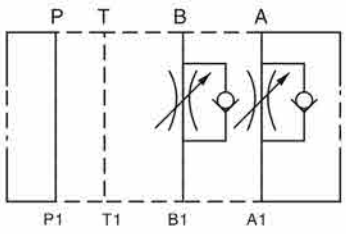
AFR A X



AFR B X



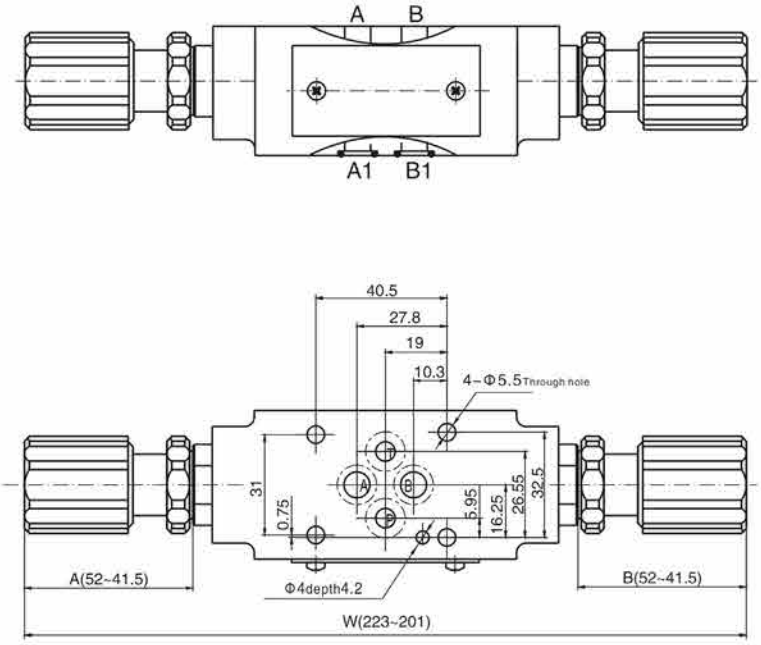
AFR X (STD)



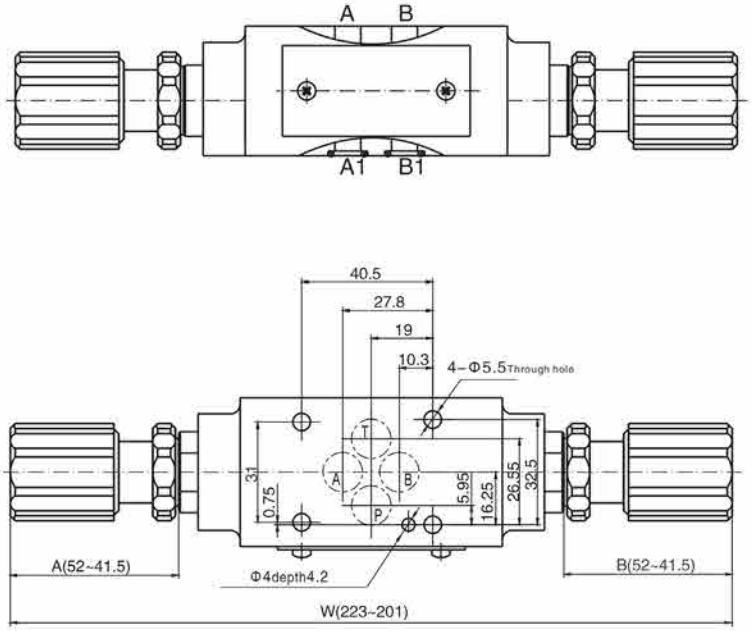
Modular flow control valve

External dimensions

AFR 3 Y



AFR 3 X

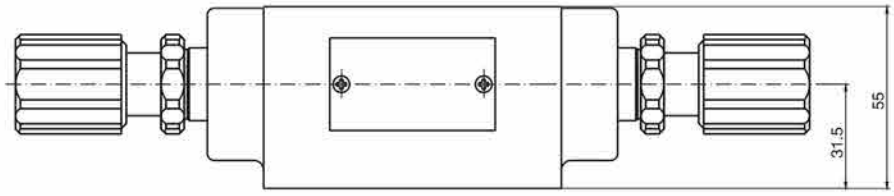


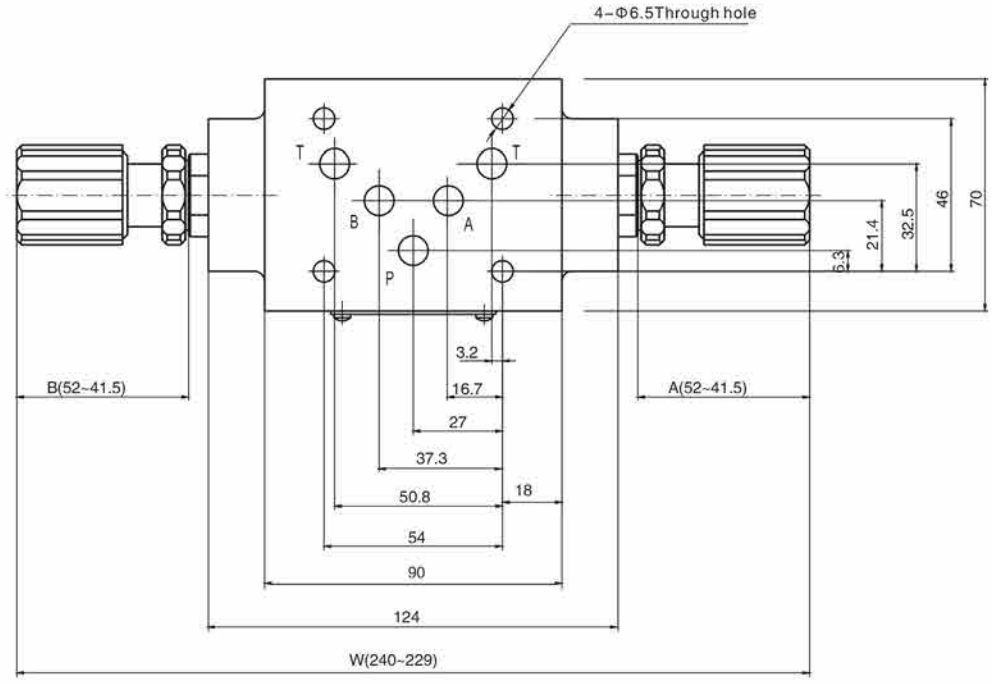
Notice：The surface, connecting with the valve, should be Ra0.8 roughness, and 0.01/100mm flatness.

Modular flow control valve

External dimensions

AFR 5 Y



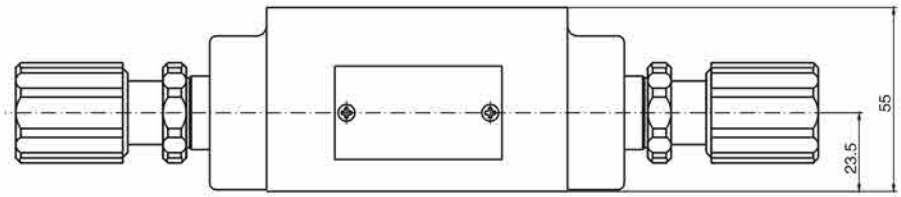


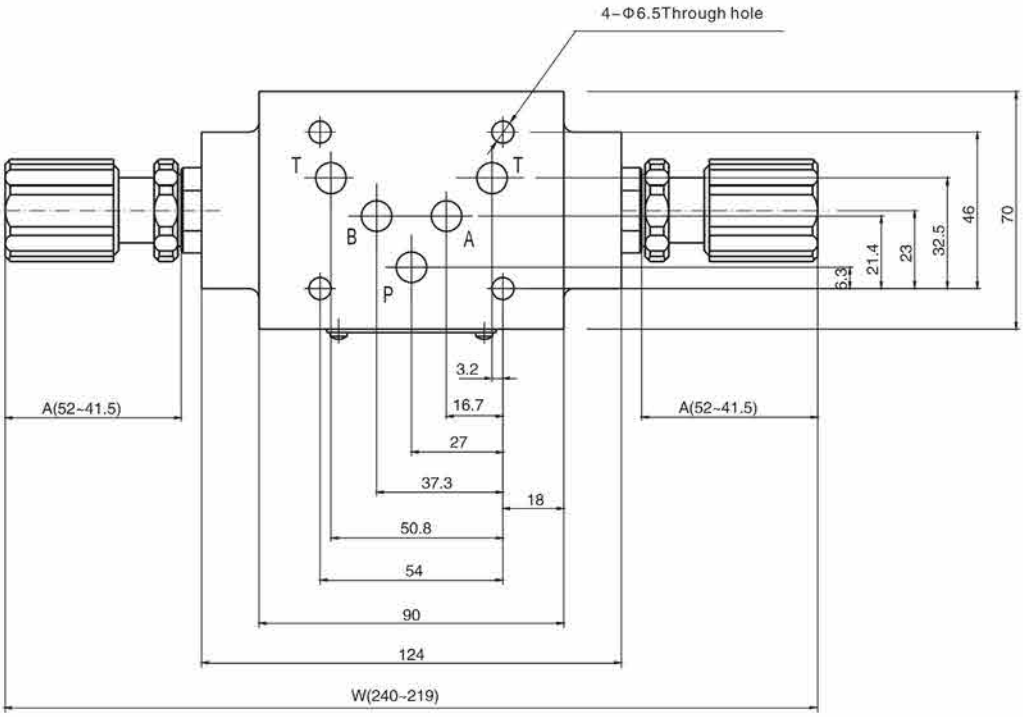
Notice：The surface, connecting with the valve, should be Ra0.8 roughness, and 0.01/100mm flatness.

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 (Mpa)	31.5	
Max. Flow (L/min)	60	100
Working fluid	Mineral oil;phosphate-ester	
Fluid temp. (℃)	-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 β 10≥75.	

Model description

APOC * * * /Design/ *

Modular PO Check Valve

Specification
ISO Size 3
ISO Size 5

Function
A & B = AB
A = A
B = B

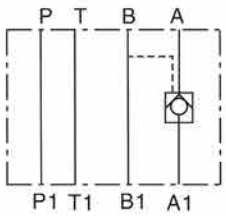
Seals
Blank = NBR
V = FKM

Design
Rexroth = RX14

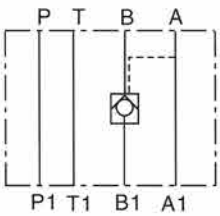
Cracking Pressure
1.5 bar = 1

Code symbol

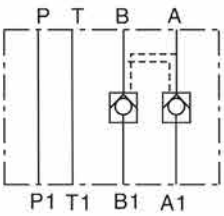
A



B

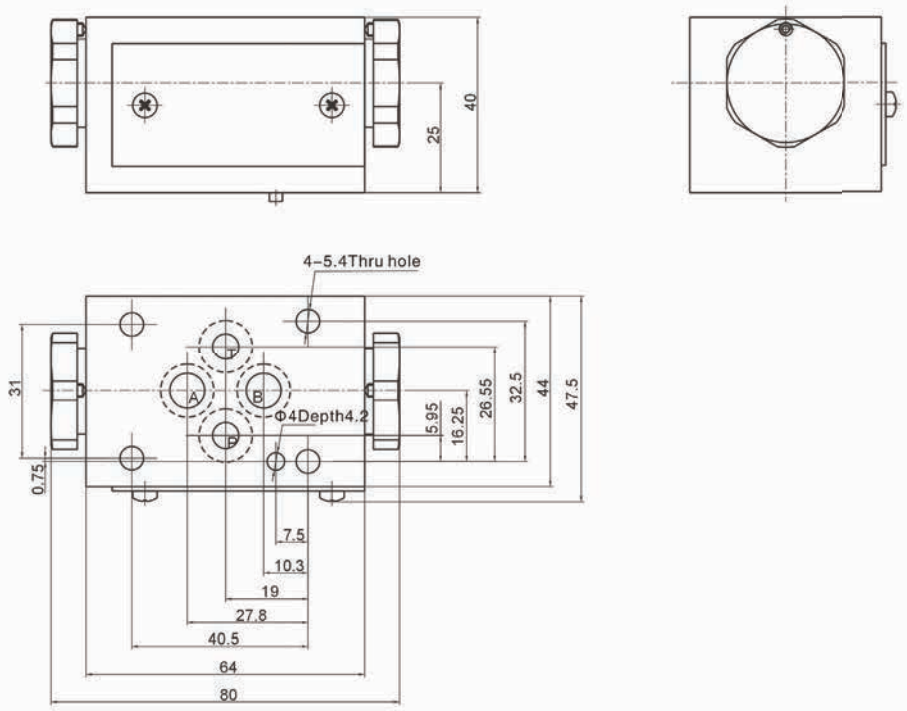


AB

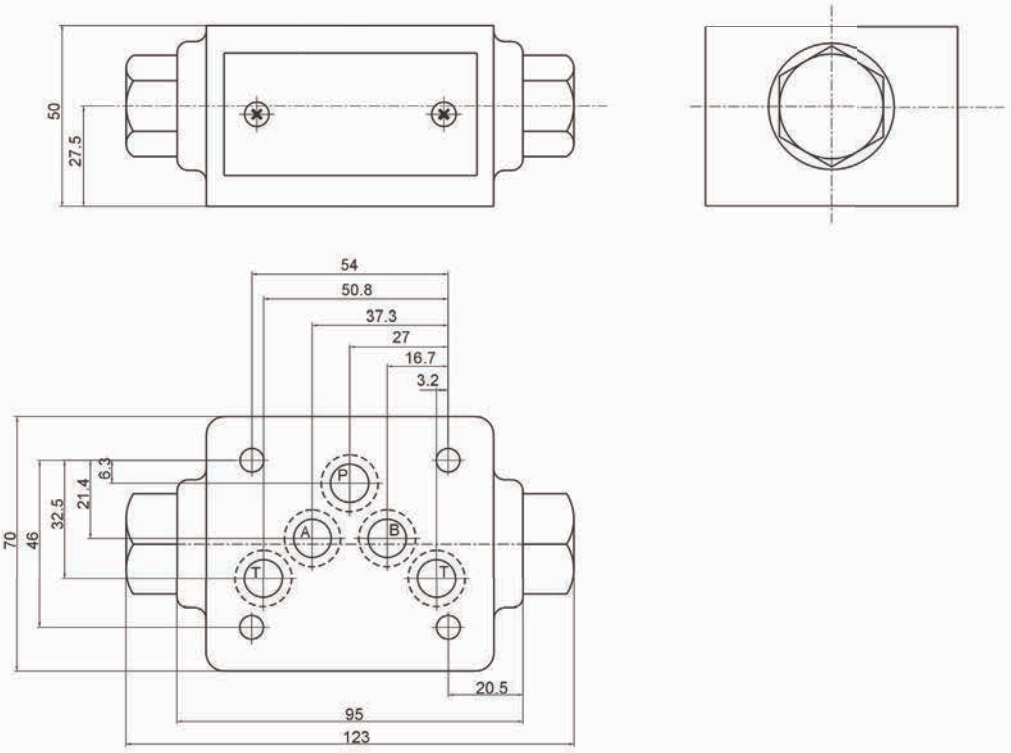


Modular pilot-operated check valve

Size 3 External dimensions



Size 5 External dimensions



Modular reducing valve

Technical specification

Specification		3	5
Max. working pressure (MPa)		21	
Max. Flow	(L/min)	35	70
Working fluid		Mineral oil;phosphate-ester	
Fluid temp.	(℃)	-20~70	
Viscosity	(mm^2/s)	12~380	
Working press	(MPa)	7 14 21	
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 β 10≥75.	

Model description

ARD * * * /Design/ * *

Modular Pressure Reducing Valve

Specification
ISO Size 3
ISO Size 5

Function
P line pilot from P = PP
P line pilot from A = PA
P line pilot from B = PB

Adjustment Type
Hand Knob = 2

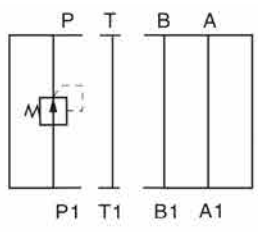
Seals
Blank = NBR
V = FKM

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

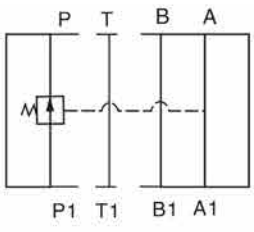
Design
RX14

Code symbol

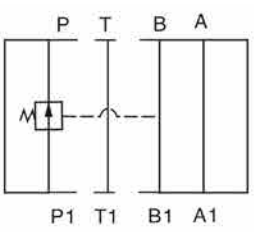
PP



PA



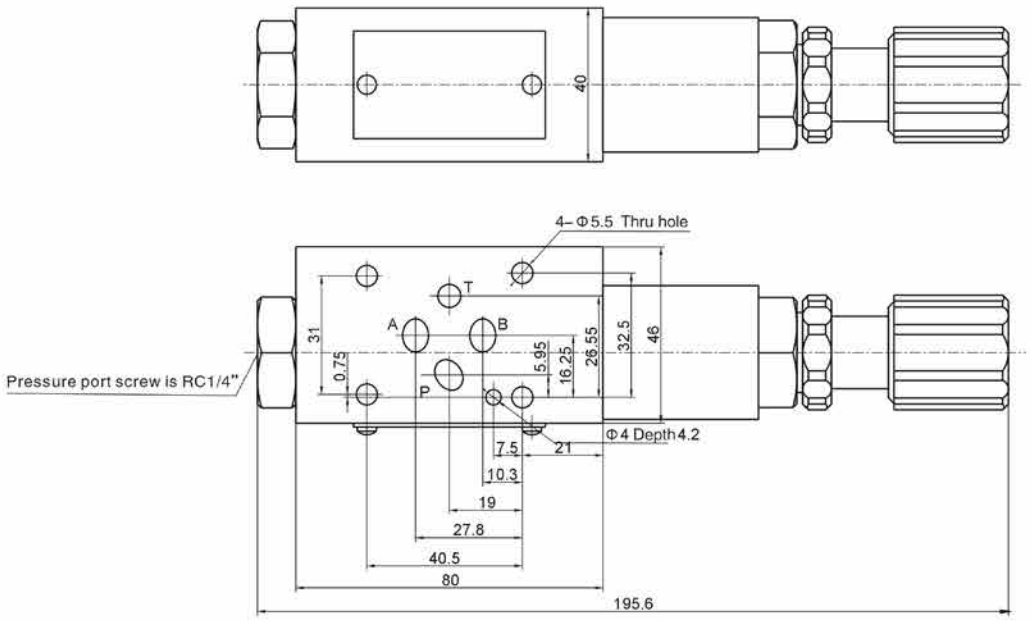
PB



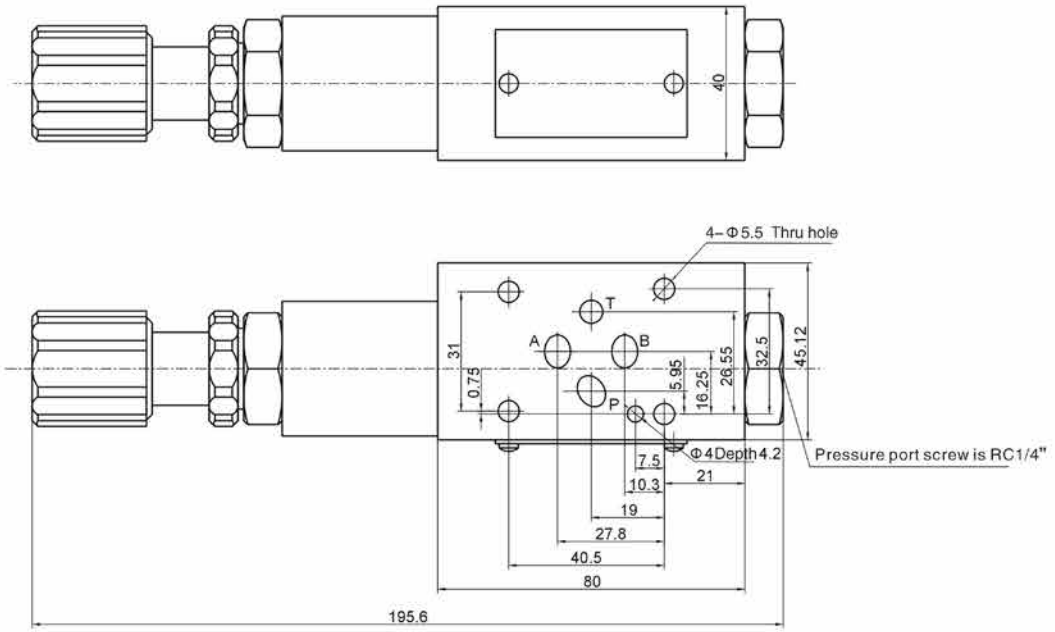
Modular reducing valve

Size 3 External dimensions

ARD 3 OA + PP



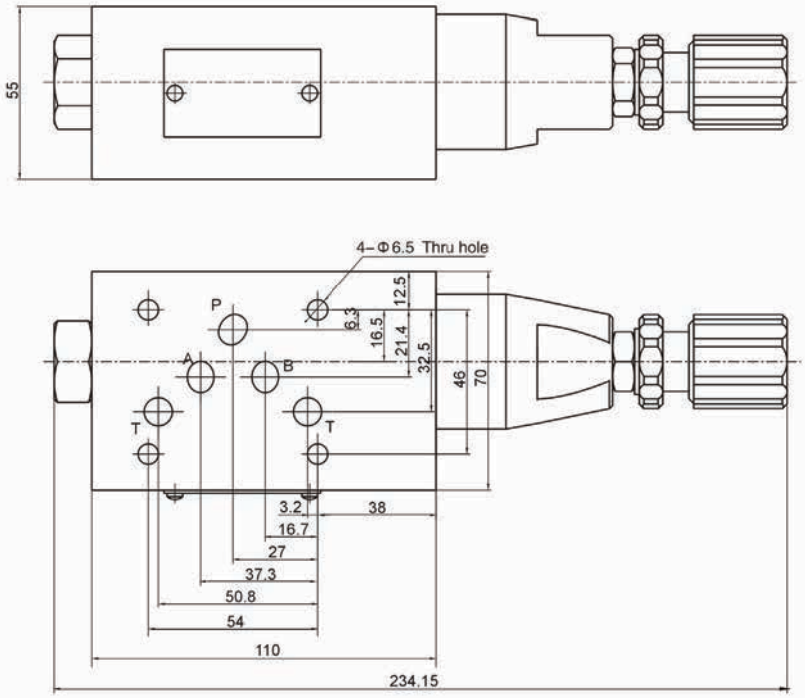
ARD 3 PB



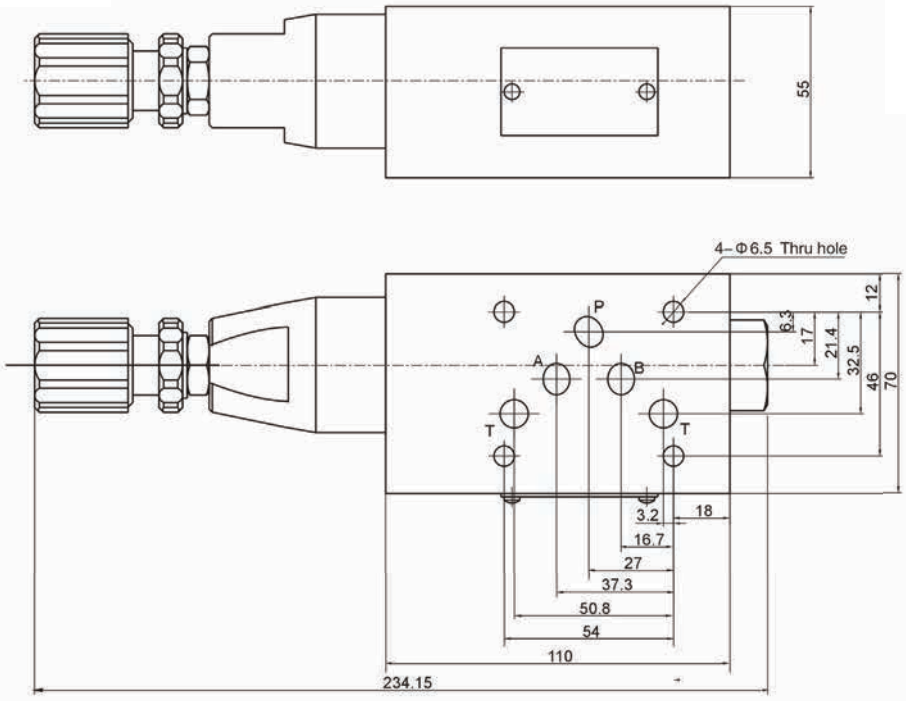
Modular reducing valve

Size 5 External dimensions

ARD 5 PA + PP



ARD 5 PB



Modular relief valve

Technical specification

Specification		3	5
Max. working pressure (MPa)		31.5	
Max. Flow	(L/min)	35	70
Working fluid		Mineral oil;phosphate-ester	
Fluid temp.	(℃)	-20~70	
Viscosity	(mm^2/s)	12~380	
Working press	(MPa)	7 14 21 31.5	
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 β 10≥75.	

Model description

ASPR * * * /Design/ * *

Modular Single Line Pressure Relief Valve

Specification
ISO Size 3
ISO Size 5

Function
Relief from P-T = PT
Relief from A-T = AT
Relief from B-T = BT

Adjustment Type
Knob Adjustment = 1

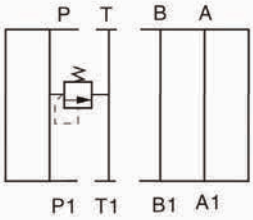
Seals
Blank = NBR
V = FKM

Pressure Setting
Up to 50 bar = 50
Up to 100 bar = 100
Up to 200 bar = 200
Up to 315 bar = 315

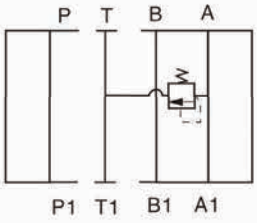
Design
RX14

Code symbol

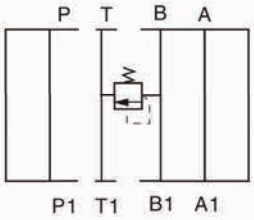
PT



AT



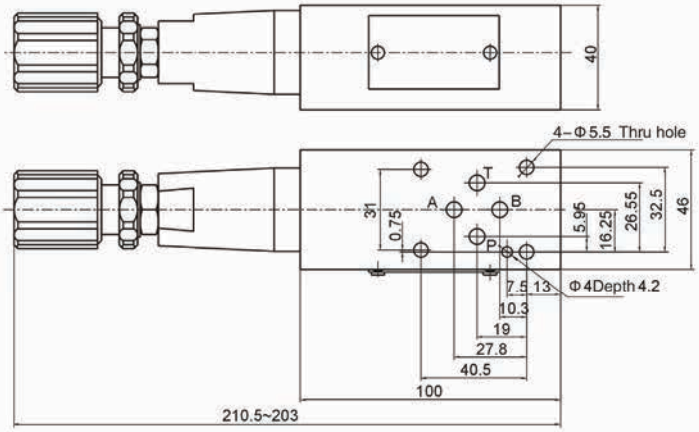
BT



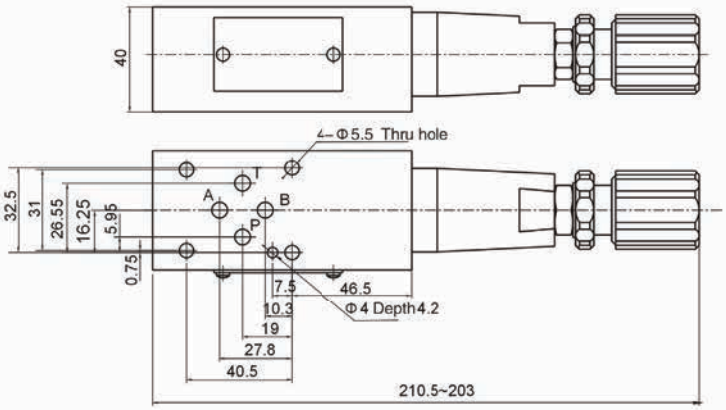
Modular relief valve

Size 3 External dimensions

ASPR 3 AT



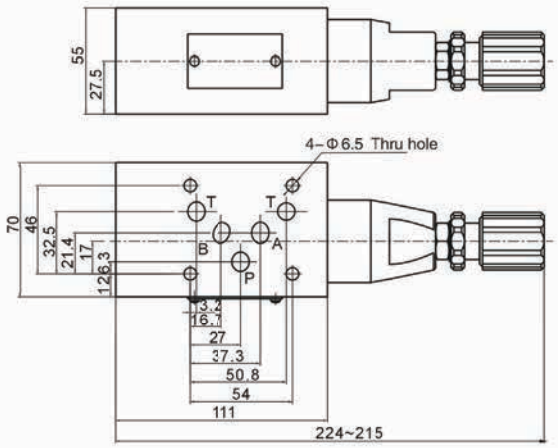
ASPR 3 BT + PT



Modular relief valve

Size 5 External dimensions

ASPR 5 AT



ASPR 5 BT + PT