

# Rexport

## Pilot operated Check valve sandwich plate Type Z2S

RE 21600/12.2004

size 6, 10  
16, 22

up to 31.5 MPa

up to 360L/min

Replace: 21547/05.2001  
21551/05.2001  
RE: 21556/05.2001  
21560/05.2001

### Features:

- For the leak free closure of one or two service ports
- Mounting pattern to DIN 24 340 form A, ISO 4401 and ETOP-RP 121H for use in vertical stacking assemblies



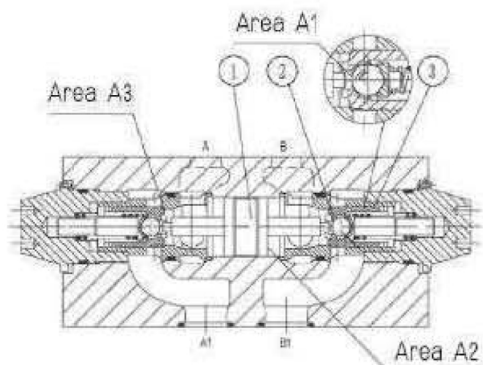
### Functional, section

Hydraulic pilot operated check valves type Z2S are of sandwich plate design.

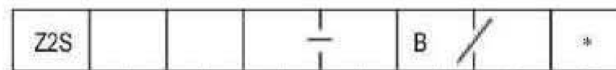
They are used for the leak-free closure of one or two service ports, even for long periods of time.

Free flow occurs from A1 to A2 or B1 to B2. Flow in the opposite direction is blocked.

In order to ensure correct closing of the valve, the service ports of the directional valve must be connected to tank in the neutral position.



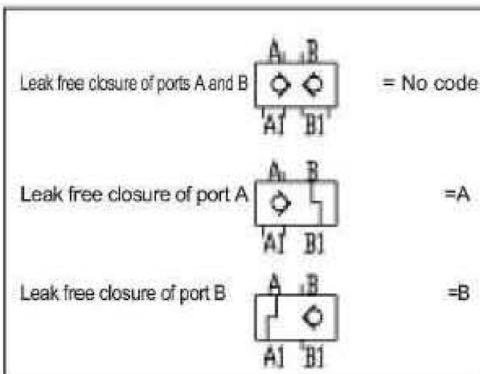
### Ordering details



Size 6	= 6
Size 10	= 10
Size 16	= 16
Size 22	= 22

Further details in clear text

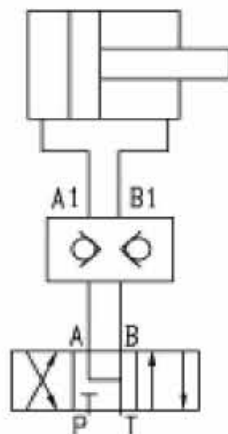
No code = Mineral oils  
V = Phosphate ester



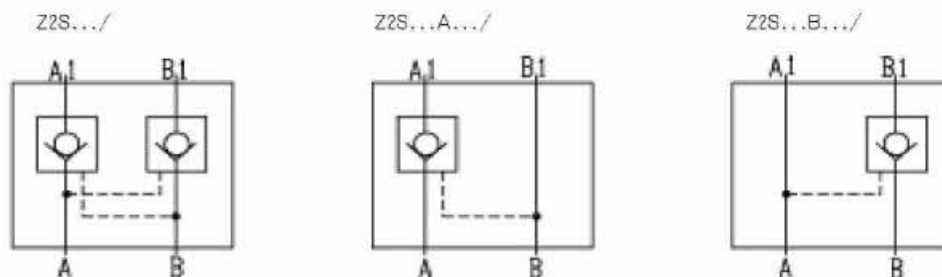
20 = Series 20 to 29 (Apply to size 10)  
(20 to 29: unchanged installation and connection dimensions)  
30 = Series 30 to 39 (Apply to size 16, 22)  
(30 to 39: unchanged installation and connection dimensions)  
40 = Series 40 to 49 (Apply to size 6)  
(40 to 49: unchanged installation and connection dimensions)

(only for size 10)  
1= Cracking pressure 0.15 MPa  
2= Cracking pressure 0.3 MPa  
3= Cracking pressure 0.6 MPa

## Typical circuit example



## Symbols



## Technical data

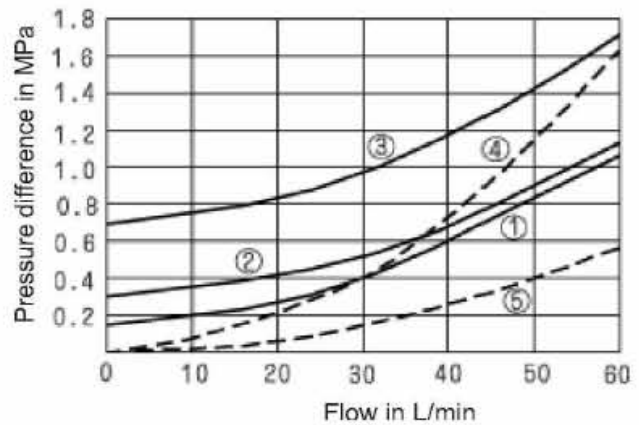
Size	6	10	16	22		
Max. flow L/min (L/min)	to 60	to 120	to 200	to 360		
Max. operating pressure (MPa)	31.5					
Cracking pressure (MPa)	0.15	0.15	0.3	0.6	0.25	0.25
Directions	Flow freely via check valve from A to A1 or B to B1 pilot operated from B1 to B or A1 to A					
Area ratio	A1/A2=1:3	$\frac{A1/A2=1:2.86}{A3/A2=1:11.45}$	$\frac{A1/A2=1:11.8}{A3/A2=1:2.8}$	$\frac{A1/A2=1:13.6}{A3/A2=1:2.8}$		
Pressure fluid	Mineral oils(for NBR seal) or phosphate ester(for FPM seal)					
Pressure fluid temperature range (°C)	-20 to +80					
Viscosity range (mm <sup>2</sup> /s)	2.8 to 500					
Weight (kg)	0.8	2	7	11.7		

**Characteristic curves** (measured at  $v = 41 \text{ mm}^2/\text{s}$  and  $t = 50^\circ\text{C}$ )

Type Z2S6

— = A → A1; B → B1  
 - - - = A1 → A; B1 → B

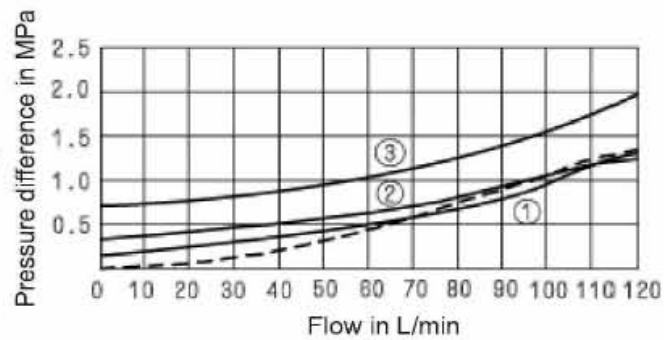
1. Normal cracking
2. Check valve cartridge
3. Flow freely (without check valve)
4. Through check valve cartridge
5. Flow freely (without check valve cartridge Type "A" and type "B" )



Type Z2S10

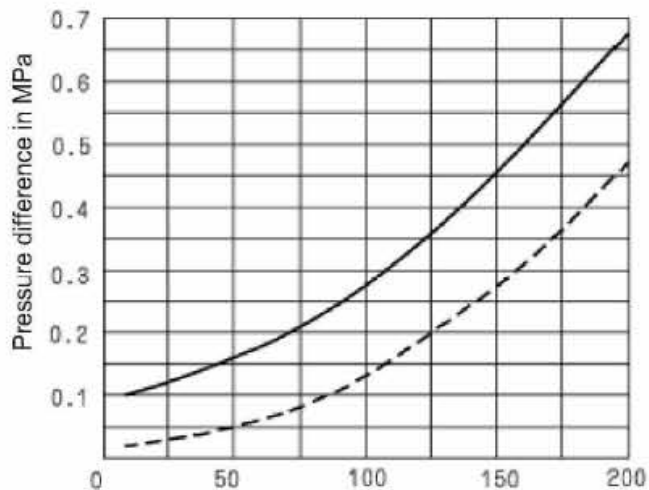
— = A → A1; B → B1  
 - - - = A1 → A; B1 → B

1. Cracking pressure 1 = 0.15 MPa
2. Cracking pressure 2 = 0.3 MPa
3. Cracking pressure 3 = 0.6 MPa



Type Z2S16

— = A → A1; B → B1  
 - - - = A1 → A; B1 → B

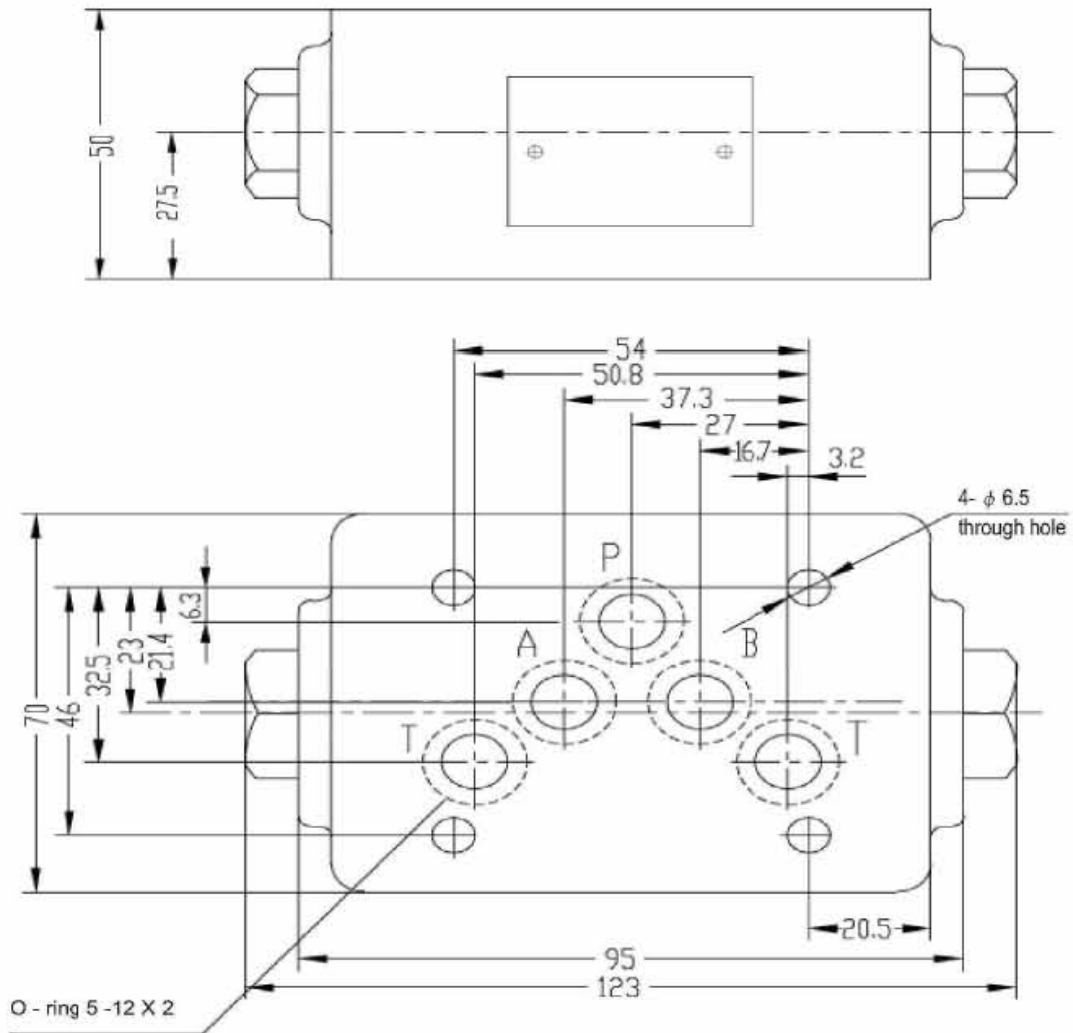






Unit dimensions: (Size10)

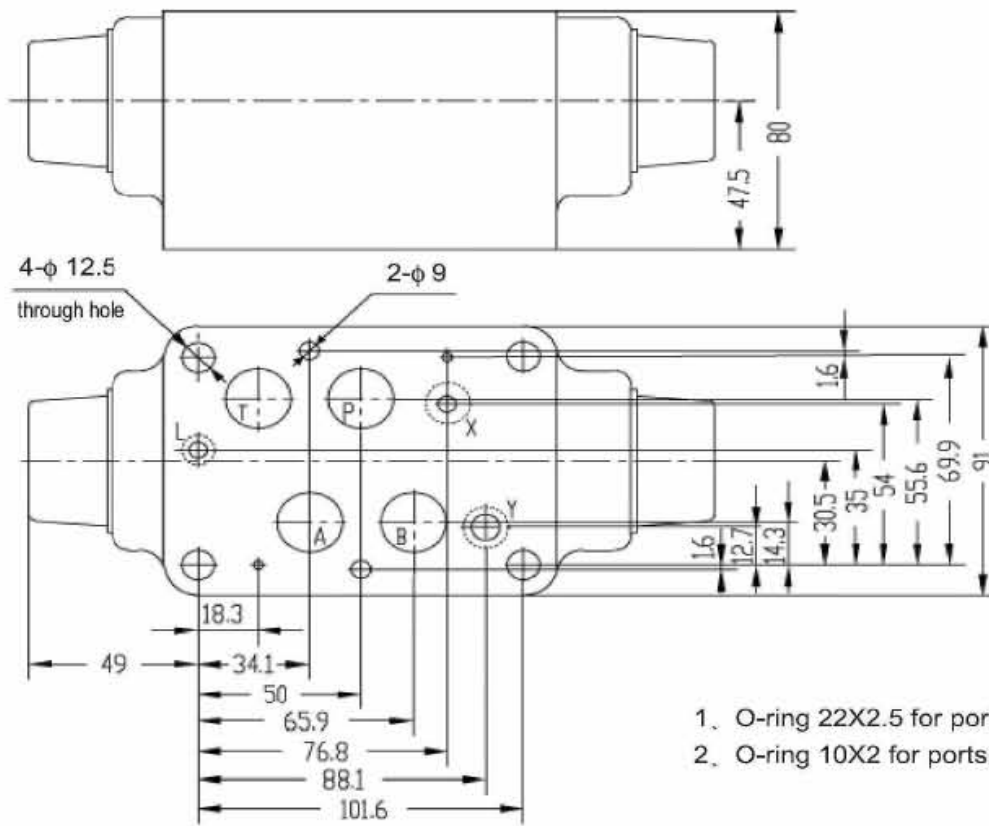
(Dimensions in mm)



**Unit dimensions**

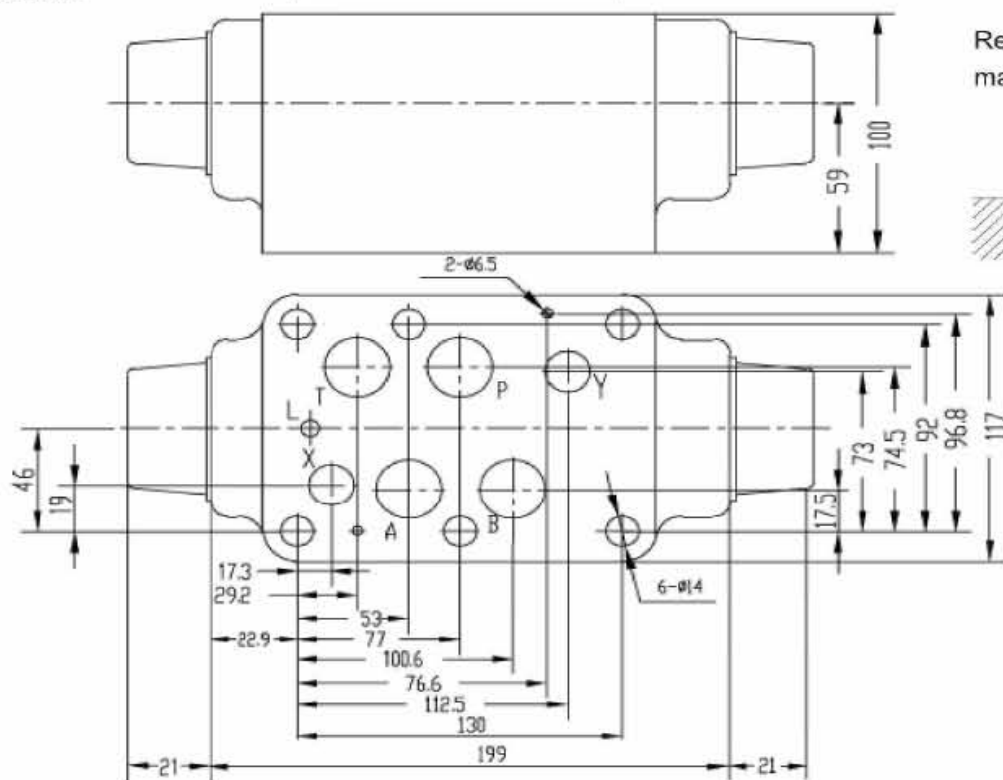
**(Dimensions in mm)**

Size16



1. O-ring 22X2.5 for ports P, A, B, T
2. O-ring 10X2 for ports X, Y, L

Size22



Required surface finish of mating piece



1. O-ring 27X3 for ports P, A, B, T
2. O-ring 19X3 for ports X, Y, L

Size 6, 10  
16, 22

up to 31.5 MPa

up to 450L/min

**Features:**

- For use in vertical stacking assemblies
- For the leak free closure of one or two service ports
- Porting pattern to Din 24 340 form A, ISO 4401 and CETOP-RP 121H



**Functional, section**

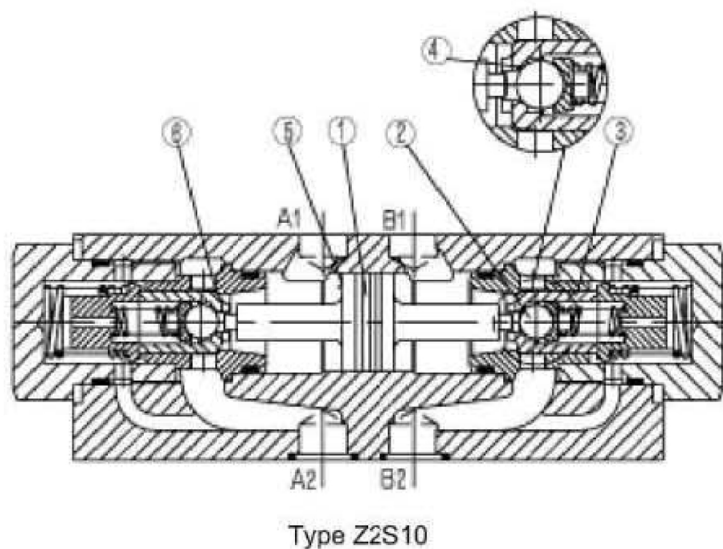
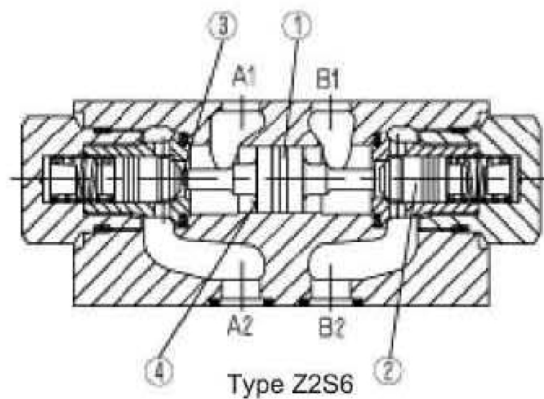
Hydraulic pilot operated check valves type Z2S are of sandwich plate design.

They are used for the leak-free closure of one or two service ports, even for long periods.

Free flow occurs from A1 to A2 or B1 to B2, the opposite direction is blocked.

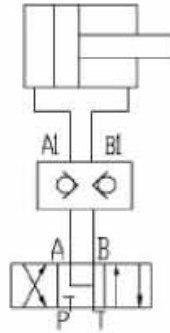
When fluid flows from A1 to A2, the pressure is pushed to the right opening the ball poppet valve (2) with the poppet (3).

In order to ensure correct closing of service ports of the directional valve, the valve is connected to tank in the neutral position.



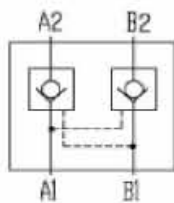
- 1 Spool
- 2 Ball poppet valve
- 3 Poppet
- 4 Area A1
- 5 Area A2
- 6 Area A3

## Typical circuit example

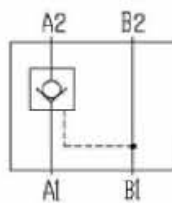


## Symbols

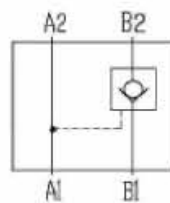
Z2S.../



Z2S...A.../



Z2S...B.../



## Ordering details



Further details in clear text

No code = Mineral oils  
V = Phosphate ester

Size6 = 6  
Size10 = 10  
Size16 = 16  
Size22 = 22

30 = Series 30 to 39 (Apply to size 10)  
(30 to 39: unchanged installation and connection dimensions)  
50 = Series 50 to 59 (Apply to size 16,22)  
(50 to 59: unchanged installation and connection dimensions)  
60 = Series 60 to 69 (Apply to size 6)  
(60 to 69: unchanged installation and connection dimensions)

Leak free closure of ports A and B = No code

Leak free closure of port A = A

Leak free closure of port B = B

1 = Cracking pressure 0.15MPa (only for size6, 10)  
Cracking pressure 0.3MPa (only for size16, 22)

2 = Cracking pressure 0.3MPa  
Cracking pressure 0.5MPa (only for size 16,22)

3 = Cracking pressure 0.6MPa (only for size10)  
Cracking pressure 0.7MPa (only for 6)

4 = Cracking pressure 0.75MPa (only for 16, 22)  
Cracking pressure 1.0MPa (only for 10, 16, 22)

## Technical data

Size		6	10	16	22
Max. flow L/min	(L/min)	to 60	to 120	to 300	to 450
Max. operating pressure	(MPa)	31.5			
Cracking pressure	(MPa)	see curve			
Directions		see symbols			
Area ratio		A1/A2=1.3	A1/A2=1:11.45	A1/A2=1:11.8	A1/A2=1:13.6
			A3/A2=12.86	A3/A2=12.8	A3/A2=12.8
Pressure fluid		Mineral oils(for NBR seal) or phosphate ester(for FPM seal)			
Pressure fluid temperature range	(°C)	-30 to +80			
Viscosity range	(mm <sup>2</sup> /s)	2.8 to 500			
Weight	(kg)	approx. 0.8	approx. 3	approx. 6.5	approx. 12

## Characteristic curves (measured at $\nu = 41 \text{ mm}^2/\text{s}$ and $t = 50 \text{ }^\circ\text{C}$ )

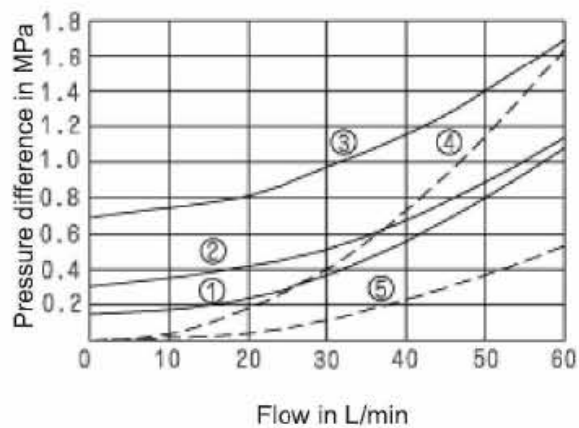
### Type Z2S6

— = A1 → A2, B1 → B2

- - - = A2 → A1, B2 → B1

1. Cracking pressure 1=0.15MPa
2. Cracking pressure 2=0.3MPa
3. Cracking pressure 3=0.7MPa
4. Through check valve cartridge
5. Flow freely

(Without check valve cartridge type "A" and type "B")

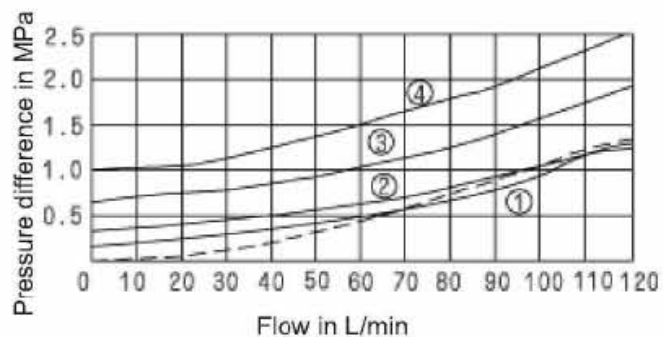


### Type Z2S10

— = A1 → A2, B1 → B2

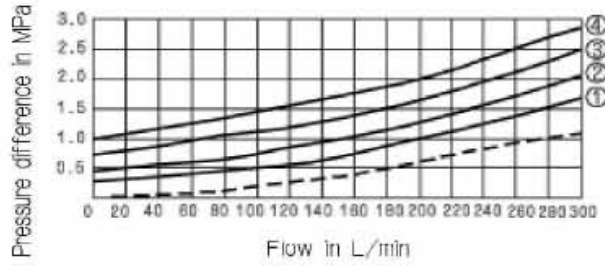
- - - = A2 → A1, B2 → B1

1. Cracking pressure 1=0.15MPa
2. Cracking pressure 2=0.3MPa
3. Cracking pressure 3=0.6MPa
4. Cracking pressure 4=1.0MPa



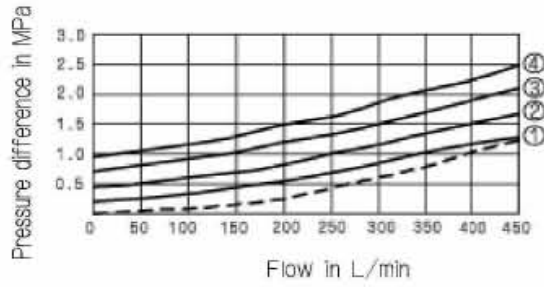
Type Z2S16

— = A1 → A2, B1 → B2  
 - - - = A2 → A1, B2 → B1



Type Z2S22

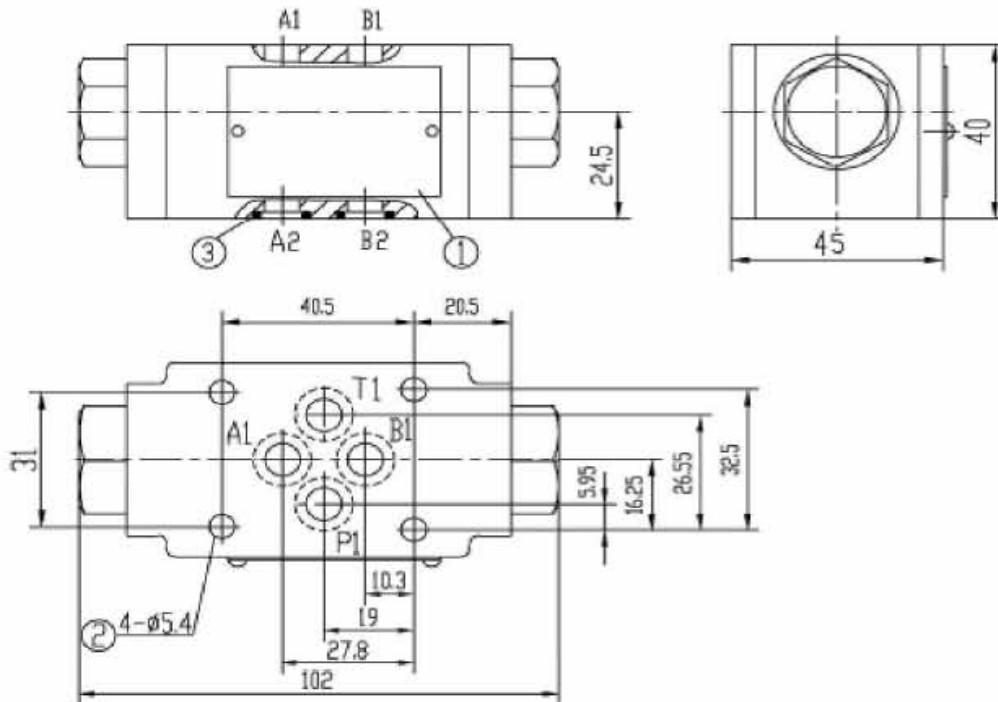
— = A1 → A2, B1 → B2  
 - - - = A2 → A1, B2 → B1



Unit dimensions

(Dimensions in mm)

Size6

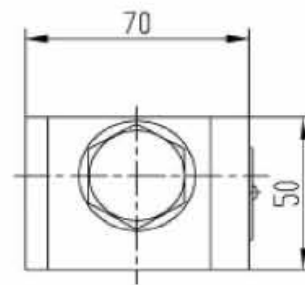
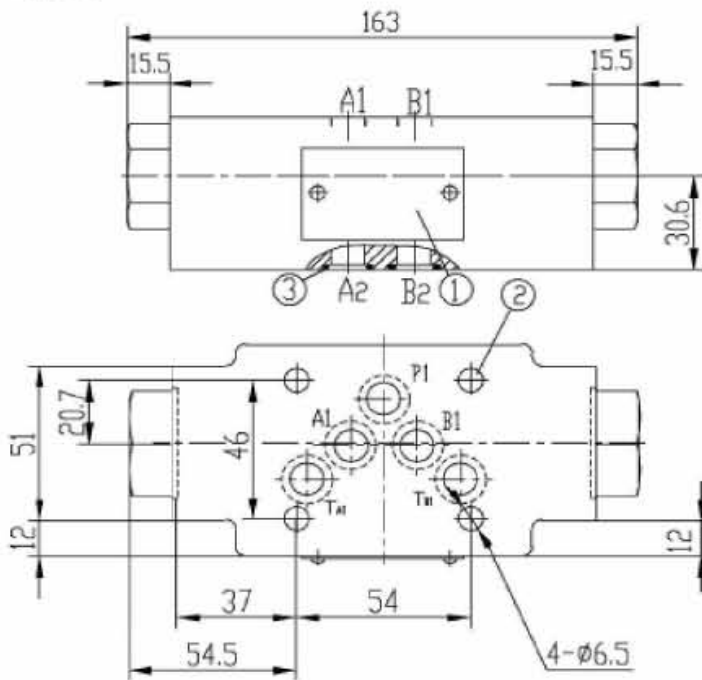


1. Name plate
2. Holes for mounting
3. O-rings 9.25 x 1.78 for four ports  
 Valve fixing screws 4 - M5 -10.9  
 (GB/T70.1-2000)  
 Screw torque:  $M_A = 8.9 \text{ Nm}$

**Unit dimensions**

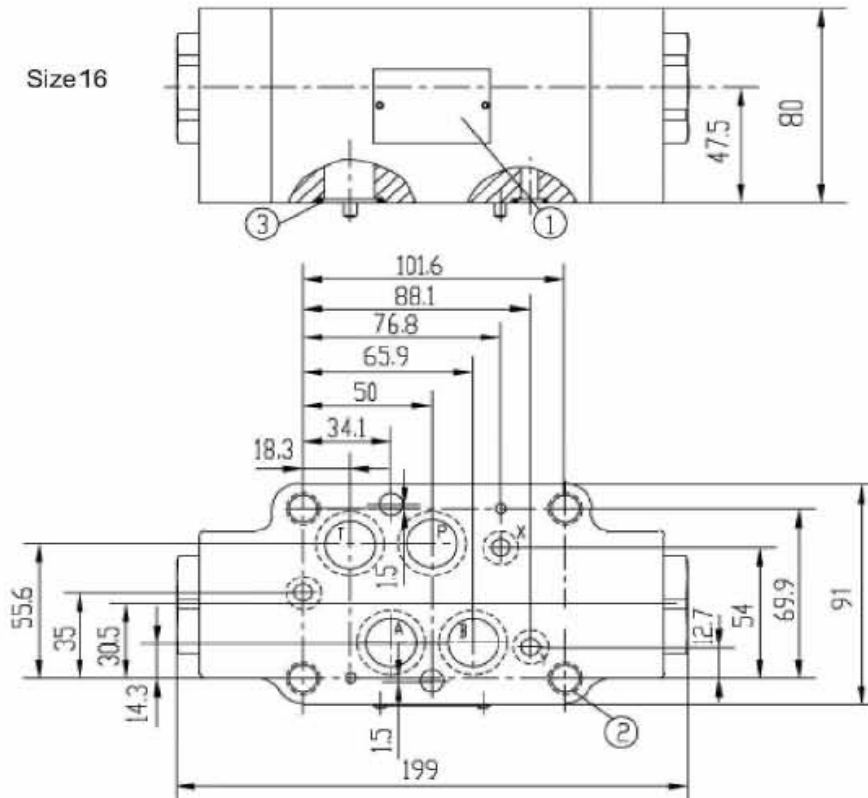
**(Dimensions in mm)**

Size 10



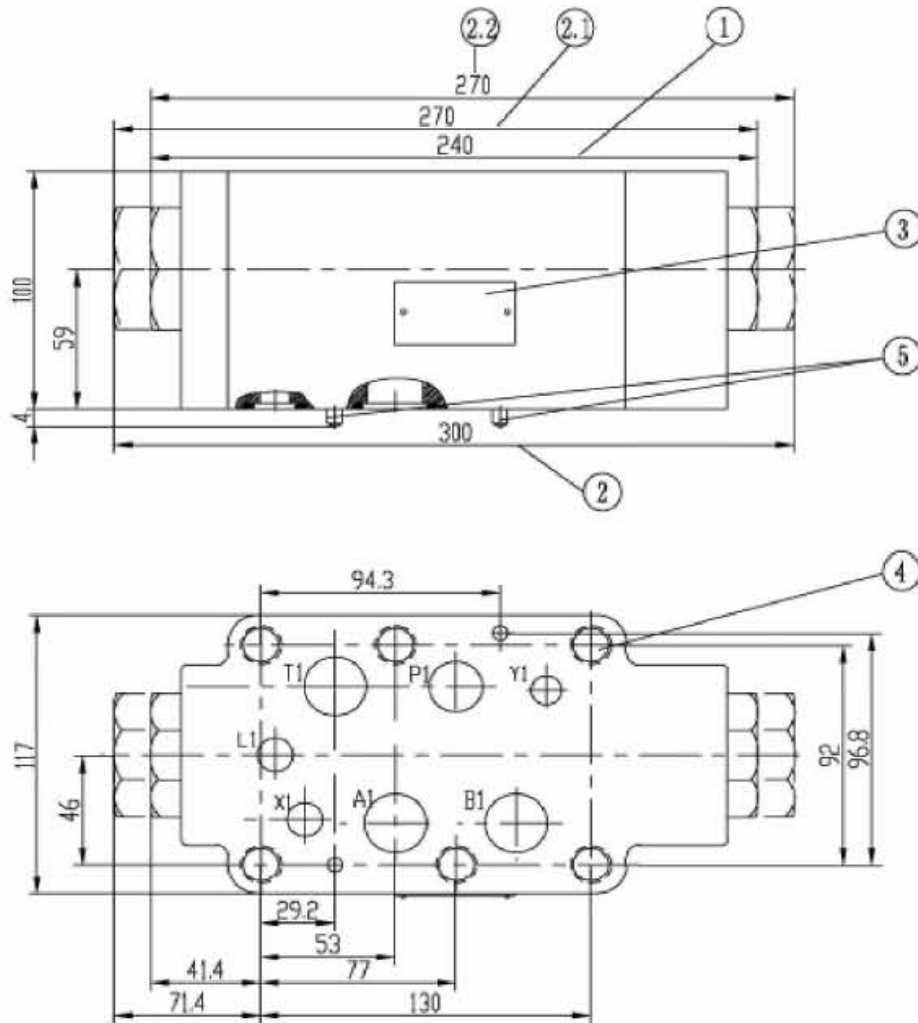
- 1. Nameplate
- 2. Holes for mounting  
4 -  $\phi 6.5$
- 3. O-rings 12x 2 for 5 ports  
P, A, B, T<sub>A1</sub>, T<sub>B1</sub>  
Valve fixing screws  
4-M6 -10.9  
(GB/T70.1-2000)  
Screw torque:  $M_A=15.5\text{Nm}$

Size 16



- 1. Nameplate
- 2. Holes for mounting
- 3. O-rings 22x 2.5 for ports  
P, A, B, T  
10X2 for ports X, Y, L  
Valve fixing screws:  
① 4-M10 -10.9  
(GB/T70.1-2000)  
Screw torque:  $M_A=75\text{Nm}$   
② 2-M6 -10.9  
(GB/T70.1-2000)  
Screw torque:  $M_A=15.5\text{Nm}$

Size22



- 1 Cracking pressure 0.3MPa or 0.5MPa , Leak free closure of ports A and B
- 2 Cracking pressure 0.75MPa or 1.0MPa , Leak free closure of ports A and B
- 2.1 Cracking pressure 0.75MPa or 1.0MPa , Leak free closure of port A
- 2.2 Cracking pressure 0.75MPa or 1.0MPa , Leak free closure of port B
- 3 Label plate
- 4 Valve fixing screws:  
6- M14-10.9 (GB/T70.1-2000) ,  
Screw torque: $M_A=205Nm$
- 5 Fixing pin

Required surface finish of mating piece

