

# Esperblock (modular valve)

## ■KD Series

Maximum operating pressure	Maximum flow	Applied pumps
70MPa	8L/min	One-stage type: MP-17H or smaller Two-stage type: MP-12 or smaller



Hydraulic Valves

# Esperblock (modular valve)

## ■KD Series

Characteristics of small-size solenoid valves

- The coil is a continuous rating type and can be energized over a long duration.
- Almost no oil leaks because the valve is a poppet type.
- Fluoro rubber is used for the internal packing.
- Since the valve is a pressure balanced type and the coil is an oil seal type, the valve has small shocks and greater durability.
- The connector includes an indicator lamp.
- A number of circuit configurations can be made easily by combining the valves and plates of various models.

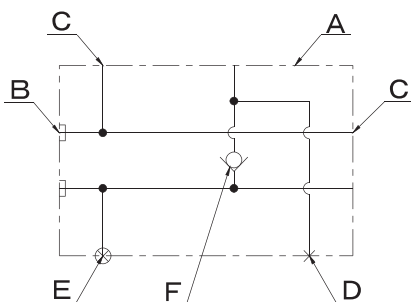
### ⚠ Instructions for use:

- Since this valve has a balance mechanism, the pressure balance of each port (high/low) should be observed as follows.  
 KD-2S/2C is  $P \geq T$   
 KD-3S/3C is  $P \geq A \geq T$
- The torque of the valve tightening bolt (M6) should be controlled between 12 and 13 Nm and the torque of the plate tightening bolt (M8) between 20 and 25 Nm.
- The connectors are exclusive to 100/200 V respectively.
- Exclusive plates are required respectively when Esperblock is used. A 2-way valve cannot be used with a 3-way valve.
- The DC 24 V specification is available on request.

### ⚠ Instructions on using an inline filter:

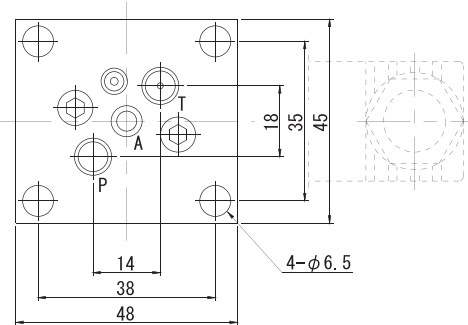
- An inline filter protects the individual solenoid valves (KD series). When inclusion of dust, etc. may occur, a separate filter should be used at the outlet port.
- Since the rated capacity is small, the pressure loss tends to increase when the filter is used by more than one solenoid valve. In addition, the filter cannot be used for a high-capacity bleeder circuit, etc.
- The filter should be used in a pump of MP-6 or smaller.
- Regular cleaning is required.
- M6 x 30 (4) mounting bolts are required separately.

### Description of the circuit designation

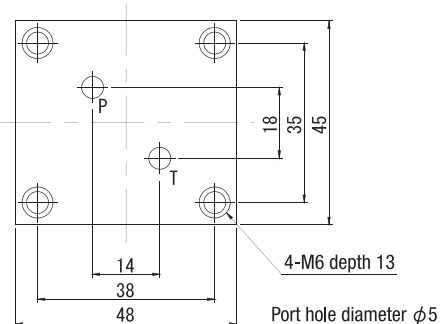


- A: Configuration range
- B: For mounting surface (O-ring), including counterbore
- C: Mounting surface
- D: Rc3/8 (Female thread)
- E: Rc3/8 (Including plug)
- F: Check valve

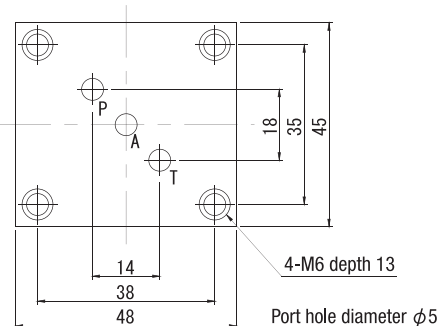
### Solenoid valve mounting surface



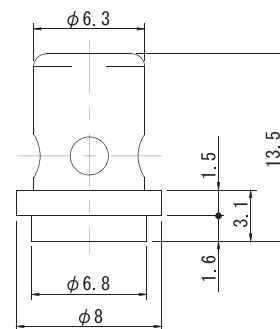
### KD-2S/2C plate mounting surface



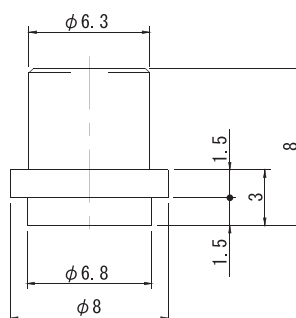
### KD-3S/3C plate mounting surface



### Check valve outline drawing



### Orifice outline drawing



# Esperblock (modular valve)

## List of the KD series models

Classification	Name	Type	Circuit designation	Mounting bolt	Indicated page	Classification	Name	Type	Circuit designation	Mounting bolt	Indicated page
4-way three position direction-control valve	Center bypass	<b>New Product</b> SMVH-43		Including bolts	121	3-way two position direction-control valve	3-way solenoid valve (normally open)	KD-3S-※		Including four M6 x 20	119 120
		KD-2S-※									
KD-2S-※-C (Including a check valve)											
KD-2S-※-* (Including an orifice)											
2-way two position direction-control valve	2-way solenoid valve (normally open)	KD-2C-※									
		KD-2C-※-C (Including a check valve)									
	2-way solenoid valve (normally closed)	KD-2C-※-* (Including an orifice)									
		KD-3C-※									
3-way two position direction-control valve	3-way solenoid valve (normally closed)	KD-3C-※-C (Including a check valve)									
		KD-3C-※-* (Including an orifice)									
		Inline filter	KIF-3		Four M6 x 30, separately		121				

# Esperblock (modular valve)

## List of the KD series models

Classification	Type	Circuit designation	Mounting bolt	Indicated page	Classification	Type	Circuit designation	Mounting bolt	Indicated page
For stacking	KRV-1 Relief valve		46	121	Exclusive to SMP-30**B(40**B)/MP-4	KSV-34 Sub-plate for stacking		Including bolts	123
	For stand-alone use	KBP-21 Base plate for 2-way valve				37	KPD-RK Pump direct plate		
KBP-31 Base plate for 3-way valve			37	KBSP-34 Base sub-plate			Including bolts		
For stacking	MCP-M-K Change plate		30	KPS-NE Pump sub-plate			Bolts are attached to KBSP-34.	124	
	KSBP-1 Base plate		2-M8 tap depth 15	KPS-SP Pump sub-plate			Bolts are attached to KBSP-34.		
	KSEP-1 End plate		20	<b>New Product</b> KPS-SL Pump sub-plate			Bolts are attached to KBSP-34.		
	KSP-21 Plate for 2-way valve		46	KPS-SW Pump sub-plate			Bolts are attached to KBSP-34.		
	KSPC-21 Plate with a check valve		46	Bolt		Hexagon socket head cap screw MBH-※	-	-	134
	KSP-31 Plate for 3-way valve		46			Stud MBS-※	-	-	
	KS33-21 3-port 3-way plate		92						

Hydraulic Valves