5 Port Direct Operated Poppet Solenoid Valve, Rubber Seal

Series VK3000

C: 0.54 dm³/(s·bar)

(Passage {4/2 → 5/3 (A/B → R1/R2)})

Compact: Width 18 x Length 68 (mm)

Low power consumption

4 W DC (Standard type)
2 W DC (Low wattage type)

Suitable for copper-free applications

All the parts in contact with fluid are non-copper materials

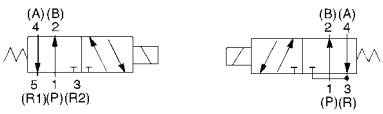
Base mounted

Body ported

JIS Symbol

Body ported

Base mounted



Specifications

Type of actuation	Direct operated type 2 position single solenoid
Fluid	Air
Ambient and fluid temperature	–10 to 50°C (No freezing. Refer to page 3-13-4.)
Response time (at the pressure of 0.5 MPa)(1)	10 ms or less (Standard), 15 ms or less (Low wattage type)
Manual override	Non-locking push type
Lubrication	Not required (Use turbine oil Class 1 ISO VG32, if lubricated.)
Mounting orientation	Unrestricted
Impact/Vibration resistance(2)	300/50 m/s²
Enclosure	Dustproof

Note 1) Based on dynamic performance test, JIS B 8375-1981. (Coil temperature: 20°C, at rated voltage, without surge suppressor)

Note 2) Impact resistance: No malfunction occurred when it is tested with a drop tester in the axial direction and at the right angles to the main valve and armature in both energized and de-energized states every once for each condition. (Values at the initial period)

Vibration resistance: No malfunction occurred in a one-sweep test between 45 and 2000 Hz. Test was performed at both energized energized states in the axial direction and at the right angles to the main valve and armature. (Values at the initial period)

Solenoid Specifications

Electrical entry		Grommet (G), DIN terminal (D)
Rated voltage (V)	AC	100, 110, 200, 220, 240
	DC	6, 12, 24, 48
Allowable voltage fluctuation		±10% of rated voltage
Apparent power (AC)*	Inrush	9.5 VA/50 Hz, 8 VA/60 Hz
	Holding	7 VA/50 Hz, 5 VA/60 Hz
Power consumption (DC)*	W/o indicator light	4 W (Standard), 2 W (Low wattage)
	W/ indicator light	4.3 W (Standard), 2.3 W (Low wattage)
Surge voltage suppressor	AC	Varistor
	DC	Diode (12 VDC or less: Varistor)
Indicator light	AC	Neon bulb
	DC	LED

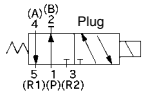
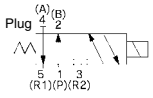
* At the rated voltage

Mounting with VK300

Series VK300 can be mounted on the same manifold base VV5K3 of VK3000 series. For details, refer to the page 3-2-4.

Used as a 3 Port Valve

Series VK3000 can be used as 3 port valve, as a N.C. or N.O. type, by plugging either "A" or "B" cylinder Port. Make sure not to plug the exhaust port "R".

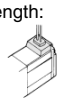
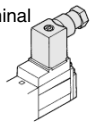
Plug position	B port	A port
Type of actuation	N. C.	N. O.
JIS symbol		

Flow Characteristics/Weight

Valve model		Operating pressure range (MPa)	Port size	Flow characteristics: 1 → 4/2 (P → A/B) C [dm³/(s·bar)]	b	Cv	Flow characteristics: 4/2 → 5/3 (A/B → R1/R2) C [dm³/(s·bar)]	b	Cv	Weight (g) Grommet
Body ported	**VK3120**	0 to 0.7	M5 x 0.8	0.45	0.37	0.12	0.43	0.37	0.12	90
			1/8	0.84	0.10	0.19	0.40	0.33	0.10	
	VK3120Y (For low wattage 2 W DC)		M5 x 0.8	0.38	0.30	0.09	0.40	0.34	0.10	
			1/8	0.48	0.11	0.11	0.35	0.38	0.10	
Base mounted (with sub-plate)	**VK3140**		1/8	0.63	0.10	0.14	0.54	0.12	0.12	130
	VK3140Y (For low wattage 2 W DC)			0.50	0.12	0.11	0.48	0.19	0.12	

How to Order

Electrical entry

G: Grommet (Lead wire length: 300 mm)	H: Grommet (Lead wire length: 600 mm)	D: DIN terminal	DO: DIN terminal (Without connector)
			

∗ For connector part number, refer to page 3-2-11.

Rated voltage

1	100 VAC, 50/60 Hz
2	200 VAC, 50/60 Hz
3∗	110 VAC, 50/60 Hz
4∗	220 VAC, 50/60 Hz
5	24 VDC
6∗	12 VDC
7∗	240 VAC, 50/60 Hz
9	Other

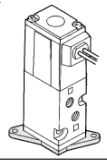
∗ Option

Port size (P, A and B port)

M5	M5 x 0.8
01	Rc 1/8

∗ R1, R2: M5

Option

Nil	None
F	With bracket (Not assembled) 

Option Part No.

Description	Part no.	Note
Bracket	VK300-43-2A	With screw

Body ported	VK3120	□	1	G	□	M5	□	□
Base mounted	VK3140	□	1	G	□	01	□	

Thread type

Nil	Rc
F	G
N	NPT
T	NPTF

Valve option

Nil	Standard
Y ∗	For low wattage (2 W DC)

∗ Option

Port size

01	Rc 1/8 (With sub-plate)
Nil	Without sub-plate

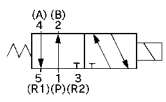
Light/Surge voltage suppressor

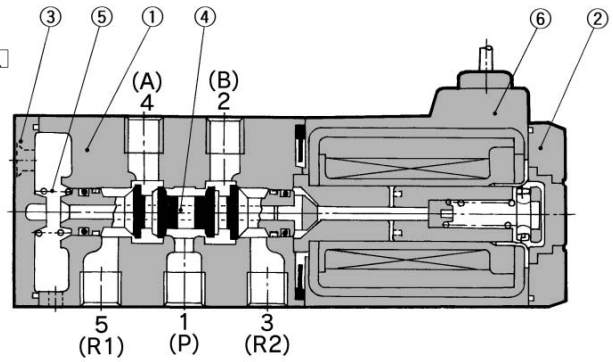
Nil	None
S	With surge voltage suppressor
Z	With light/surge voltage suppressor (Type D only)

∗ Since the indicator light is built in the connector, thus, "DOZ" is not available.

Construction

JIS Symbol





Component Parts

No.	Description	Material	Note
①	Body	Aluminum die-casted	Platinum silver
②	Cover	Resin	Black
③	End cover	Resin	Black
④	Spool valve assembly	Aluminum, NBR	
⑤	Return spring	Stainless steel	
⑥	Molded coil	Resin	Black