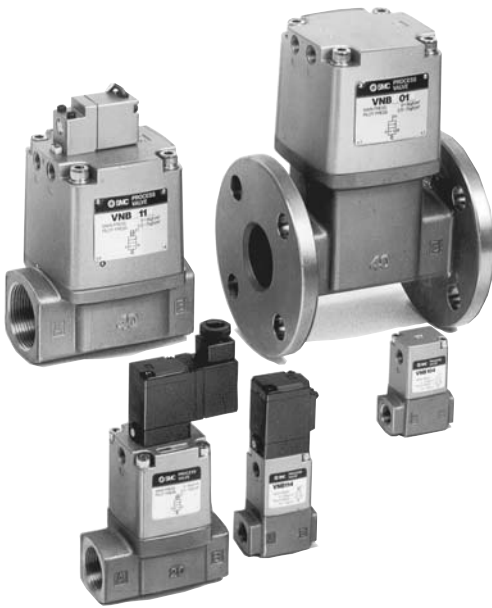


CE

* Electrical entry: D or DZ only.

Process Valve: 2 Port Valve For Flow Control **Series VNB**



JIS Symbol

Type	Valve type	N.C. Normally closed	N.O. Normally open	C.O. Double acting
		VNB□□0□	VNB□□02	VNB□□03
Air operated				
		12 (P1) 1 (A) 2 (B) 10 (P2)	10 (P2) 1 (A) 2 (B) 10 (P1)	12 (P1) 1 (A) 2 (B) 10 (P2)
External pilot solenoid				
		VNB□□1□ 12 (P1) 1 (A) 2 (B)	VNB□□12 12 (P1) 1 (A) 2 (B)	

Note) Flow direction should be from port 1(A) to port 2(B) for vacuum applications.

Option Specifications

Vacuum pilot valve VNB□□□□V

(Valve size 2 to 7)

It is used when the valve is to be operated by the main vacuum in the absence of pressurized air.

Specifications (Vacuum pilot type)

Fluid	Vacuum
Operating pressure range	-101 kPa to Atmospheric pressure
Pilot pressure range	-101 to -47.9 kPa

JIS Symbol (Vacuum pilot type)

Type	Valve type	N.C. Normally closed	N.O. Normally open
		VNB□□01V	VNB□□02V
Air operated			
		12 (P2) 1 (A) 2 (B)	12 (P1) 1 (A) 2 (B)
External pilot solenoid			
		VNB□□11V 12 (P1) 1 (A) 2 (B)	VNB□□12V 12 (P1) 1 (A) 2 (B)

Model

Model	Port size Rc	Orifice dia. ø (mm)	Flow characteristics				Mass (kg)	
			Measured by air		Measured by water		Air operated	External pilot solenoid
			C [dm³/(bar·sec)]	b	Cv	Av x 10⁻⁶ m²		
VNB1□□□-6A	1/8	7	3.3	0.29	0.80	25	0.3	0.4
VNB1□□□-8A	1/4		4.6	0.17	1.0	29		
VNB1□□□-10A			4.7	0.18	1.1	31		
VNB2□□□-10A	3/8	11	9.6	0.40	2.6	71	0.6	0.7
VNB2□□□-10A		15	17	0.32	4.0	110		
VNB2□□□-15A	1/2	11	9.6	0.40	2.6	76		
VNB2□□□-15A		15	19	0.24	4.8	140	0.9	1.0
VNB3□□□-20A	3/4	14	18	0.42	5.4	140		
VNB3□□□-20A		20	35	0.13	7.4	270		

Model	Port size		Orifice dia. ø (mm)	Flow characteristics		Mass (kg)	
	Rc	Flange ^{Note)}		Cv	Effective area (mm²)	Air operated	External pilot solenoid
VNB4□□□-25A	1	-	16	7	130	1.4	1.5
VNB4□□□-25A			25	12	220		
VNB5□□□-32A	1 1/4		22	11	210	2.5	2.6
VNB5□□□-32A		32	32	18	320		
VNB5□□□-32F	-		22	11	210	5.7	5.8
VNB5□□□-32F			32	18	320		
VNB6□□□-40A	1 1/2	-	28	19	330	4.1	4.2
VNB6□□□-40A			40	28	500		
VNB6□□□-40F	-		28	19	330	7.7	7.8
VNB6□□□-40F		40	40	28	500		
VNB7□□□-50A	2		33	29	520	6.3	6.4
VNB7□□□-50A			50	43	770		
VNB7□□□-50F	-	50	33	29	520	11.4	11.5
VNB7□□□-50F			50	43	770		

Note) The flange should be JIS B 2210 10K (ordinary style) or its equivalent.

Specifications

Fluid	Water/Oil/Air/Vacuum, etc.	
Fluid temperature	VNB□□□A, VNB□□□B	-5 to 60°C ^{Note 1)}
Fluid temperature	VNB□□□B	-5 to 99°C ^{Note 1)} (Water, Oil etc. Air Operated only)
Ambient temperature	-5 to 50°C ^{Note 1)} (Air operated type: 60°C)	
Proof pressure	1.5 MPa	
Applicable ^{Note 4)} pressure range	VNB□□□1□	Low vacuum to 0.5 MPa
	VNB□□□3□	Low vacuum to 1 MPa
External pilot air	Pressure	VNB□□□1□ 0.25 to 0.7 MPa
		VNB□□□3□ 0.1 + 0.25 x (Operating pressure) to 0.25 + 0.25 x (Operating pressure) MPa ^{Note 3)} Refer to "Graph (1)" on page 366.
	Lubrication	Not required (Use turbine oil Class 1 ISO VG32, if lubricated. ^{Note 2)})
	Temperature	-5 to 50°C (Air operated type: 60°C)
Mounting orientation	Unrestricted ^{Note 5)}	

Note 1) No freezing
 Note 2) Lubrication is not allowed in the case of seal material EPR.
 Note 3) Adjust the operating pressure range from 0.125 MPa to 0.275 MPa for low vacuum.
 Note 4) The pressure differential between Port 1 (A) and 2(B) must not exceed the maximum operating pressure.
 Note 5) For external pilot solenoid, it is recommended that the pilot solenoid valve be oriented either vertically upward or horizontally.

Pilot Solenoid Valve Specifications

Port size		6A to 25A	32A to 50A, 32F to 50F	32A to 50A, 32F to 50F, CE compliant
Pilot solenoid valve		SF4-□□□-23	VO301□-00□□□	VO307□-00□□Bz-Q
Electrical entry		Grommet, Grommet terminal, Conduit terminal, DIN terminal	Grommet, Conduit, DIN terminal, Other (Option)	DIN terminal
Coil rated voltage (V)	AC (50/60 Hz)	100 V, 200 V, other voltage (Semi-standard)		
	DC	24 V, other voltage (Semi-standard)		
Allowable voltage fluctuation		-15% to +10% of rated voltage		
Temperature rise		35°C or less (when rated voltage is applied.) 70°C or less (when rated voltage is applied.) 50°C or less (when rated voltage is applied.)		
Apparent power	AC	Inrush	5.6 VA (50 Hz), 5.0 VA (60 Hz) 12 VA (50 Hz), 10.5 VA (60 Hz) 12.7 VA (50 Hz), 10.7 VA (60 Hz)	
		Holding	3.4 VA (50 Hz), 2.3 VA (60 Hz) 7.5 VA (50 Hz), 6 VA (60 Hz) 7.6 VA (50 Hz), 5.4 VA (60 Hz)	
Power consumption	DC	1.8 W (without light), 2W (with light) 4.8 W (without light), 5 W (with light)		
Manual override		Non-locking push type Other (Semi-standard) Non-locking push type		

Note 1) For "How to Order" pilot solenoid valves, refer to page 368.
 Note 2) Vacuum pilot type pilot solenoid valves will become VO301V-00□□□.
 Note 3) Vacuum pilot type CE compliant pilot solenoid valves will become VO307V-□□□-Q.