

How to Order



Body size		Port size	
Body size	Port	Port size	
		1 (P), 2 (A)	3 (R)
12	01	1/8	
	02	1/4	
32	02	1/4	
	03	3/8	
	04	1/2	
50	04	1/2	
	06	3/4	
	10	1	
70	10	1	1 1/4
	12	1 1/4	
90	14	1 1/4	2
	20	2	

Electrical entry (Only with solenoid)

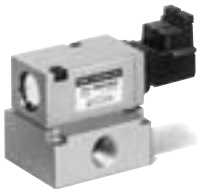
Body size	Symbol	Electrical entry
12 (Note) 32	G	Grommet, Lead wire length 300 mm
	H	Grommet, Lead wire length 600 mm
	L	L plug connector, lead wire length 300 mm
	LN	L plug connector, without lead wire
	LO	L plug connector, without connector
	M	M plug connector, lead wire length 300 mm
	MN	M plug connector, without lead wire
	MO	M plug connector, without connector
	D	DIN terminal
	DO	DIN terminal, without connector
50 70 90	G	Grommet, Lead wire length 300 mm
	H	Grommet, Lead wire length 600 mm
	E	Grommet terminal
	T	Conduit terminal
	D	DIN terminal

Body ported

VEX3 12 0 - 01 5 D - B

Base mounted

VEX3 22 0 - 01 5 D - B



Operation type

0	Air operated
1	External pilot solenoid
2	Internal pilot solenoid

Option

(Only bracket or foot may be mounted.)

Nil	None
B	Bracket (Except VEX332□)
F	Foot (VEX312□ and VEX332□ only)
N	Silencer for pilot exhaust (P2) port (Only with solenoid)

Body size Port size

Body size	Port size		
	Port	1 (P), 2 (A)	3 (R)
22	Nil	Without sub-plate	
	01	1/8	
	02	1/4	
42	Nil	Without sub-plate	
	02	1/4	
	03	3/8	
	04	1/2	

Thread type

Nil	Rc
F	G
N	NPT
T	NPTF

Rated voltage (Only with solenoid)

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

Light/Surge voltage suppressor

Nil	None
S	With surge voltage suppressor (Grommet only for a body size of 50 or more)
Z	With light/surge voltage suppressor (Except grommet)

Electrical entry (Note) (Only with solenoid)

Symbol	Electrical entry
G	Grommet, Lead wire length 300 mm
H	Grommet, Lead wire length 600 mm
L	L plug connector, lead wire length 300 mm
LN	L plug connector, without lead wire
LO	L plug connector, without connector
M	M plug connector, lead wire length 300 mm
MN	M plug connector, without lead wire
MO	M plug connector, without connector
D	DIN terminal
DO	DIN terminal, without connector

Note) Refer to page 1974 for individual part numbers of plug and DIN connectors.
(Common with Series VZ)

Sub-plate and base gasket part no.

Valve size	2	4																																		
Sub-plate	<div><div>VEX1 - 9 - 1<div><div></div><div></div></div>P</div><div><div>Port size</div><div><table><tr><th>Symbol</th><th>Port size</th></tr><tr><td>A</td><td>1/8</td></tr><tr><td>B</td><td>1/4</td></tr></table></div></div><div><div>Thread type</div><div><table><tr><th>Symbol</th><th>Thread type</th></tr><tr><td>Nil</td><td>Rc</td></tr><tr><td>F</td><td>G</td></tr><tr><td>N</td><td>NPT</td></tr><tr><td>T</td><td>NPTF</td></tr></table></div></div></div>	Symbol	Port size	A	1/8	B	1/4	Symbol	Thread type	Nil	Rc	F	G	N	NPT	T	NPTF	<div><div>VEX4 - 2A - <div><div></div><div></div></div>P</div><div><div>Port size</div><div><table><tr><th>Symbol</th><th>Port size</th></tr><tr><td>A</td><td>1/8</td></tr><tr><td>B</td><td>3/8</td></tr><tr><td>C</td><td>1/2</td></tr></table></div></div><div><div>Thread type</div><div><table><tr><th>Symbol</th><th>Thread type</th></tr><tr><td>Nil</td><td>Rc</td></tr><tr><td>F</td><td>G</td></tr><tr><td>N</td><td>NPT</td></tr><tr><td>T</td><td>NPTF</td></tr></table></div></div></div>	Symbol	Port size	A	1/8	B	3/8	C	1/2	Symbol	Thread type	Nil	Rc	F	G	N	NPT	T	NPTF
Symbol	Port size																																			
A	1/8																																			
B	1/4																																			
Symbol	Thread type																																			
Nil	Rc																																			
F	G																																			
N	NPT																																			
T	NPTF																																			
Symbol	Port size																																			
A	1/8																																			
B	3/8																																			
C	1/2																																			
Symbol	Thread type																																			
Nil	Rc																																			
F	G																																			
N	NPT																																			
T	NPTF																																			
Base gasket	VEX1-11-2	VEX4-4																																		

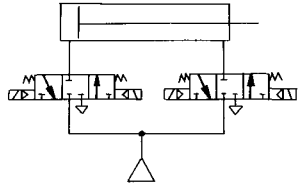
Caution

Refer to front matters 58 and 59 for Safety Instructions and pages 3 to 7 for 3/4/5 Port Solenoid Valve Precautions.

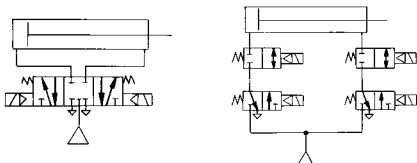
Variety of circuits in simple construction

3 position valve suitable for intermediate and emergency stop of large size cylinder.

System construction with VEX



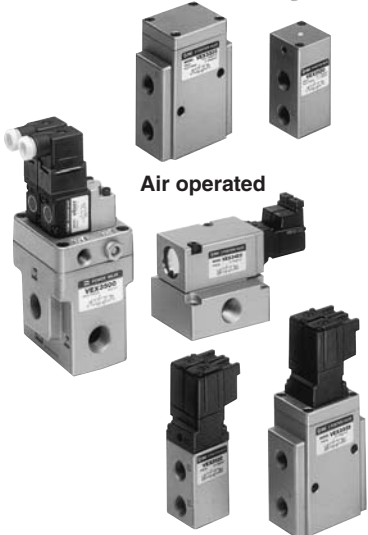
Conventional system construction



- There were not many suitable large capacity 5 port valves available with a 3 position closed center.
- There were not many suitable large capacity 2 port valves available for stopping operations.

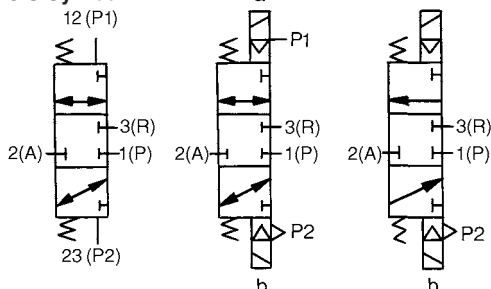


Air operated



Internal pilot solenoid/External pilot solenoid

JIS Symbol



Air operated External pilot solenoid Internal pilot solenoid

Specifications

Model	Body ported	VEX312□- ⁰¹ ₀₂	VEX332□- ⁰² _{03 04}	VEX350□- ⁰⁴ _{06 10}	VEX370□- ¹⁰ ₁₂	VEX390□- ¹⁴ ₂₀
	Base mounted	VEX322□- ⁰¹ ₀₂	VEX342□- ⁰² _{03 04}	—	—	—
Operation type		Air operated, External pilot solenoid, Internal pilot solenoid				
Fluid		Air				
Pressure range	Air operated	Main pressure Low vacuum to 1.0 MPa				
		External pilot pressure 0.2 to 1.0 MPa				
	External pilot solenoid	Main pressure Low vacuum to 1.0 MPa				
		External pilot pressure 0.2 to 0.7 MPa		External pilot pressure 0.2 to 0.9 MPa		
Internal pilot solenoid	Main pressure 0.2 to 0.7 MPa		Main pressure 0.2 to 0.9 MPa			
Ambient and fluid temperature		0 to 50°C (Air operated 60°C)				
Response time (Pilot pressure 0.5 MPa)	40 ms or less	60 ms or less				
Max. operating frequency		3 cycles/sec.				
Mounting		Free				
Lubrication		Not required (Use turbine oil Class 1 ISO VG32, if lubricated.)				

Note) Non-lubricated specifications are not available for this product.

Pilot Solenoid Valve Specifications

Model		VEX3121, VEX3221, VEX3321, VEX3421 VEX3122, VEX3222, VEX3322, VEX3422		VEX3501, VEX3701, VEX3901 VEX3502, VEX3702, VEX3902	
Pilot valve		Exclusive pilot valve		VO307-□□□	
Electrical entry		Grommet, L plug connector, M plug connector, DIN terminal		Grommet, Grommet terminal, Conduit terminal, DIN terminal	
Coil rated voltage (V)	AC(50/60Hz)	100V, 110V, 200V, 220V, 240V			
	DC	6V, 12V, 24V, 48V			
Temperature rise		-15 to +10% of rated voltage			
Apparent power	AC	Inrush	4.5 VA/50 Hz, 4.2 VA/60 Hz		12.7 VA (50 Hz), 10.7 VA (60 Hz)
		Holding	3.5 VA/50 Hz, 3 VA/60 Hz		7.6 VA (50 Hz), 5.4 VA (60 Hz)
Power consumption		DC	1.8 W (Without indicator light), 2.1 W (With indicator light)		4.8 W (Without indicator light), 5 W (With indicator light)
Manual override		Non-locking push type		Non-locking push type	

Note) When replacing the pilot valves specified for valve sizes 1 to 4, please request SMC to replace them at the factory.

Option

Description		Part no.						
		VEX312□-01 02	VEX322□-01 02	VEX332□-02 03 04	VEX342□-02 03 04	VEX350□-04 06 10	VEX370□-10 12	VEX390□-14 20
Bracket (With bolt and washer)	B	VEX1-18-1A	—	—	—	VEX5-32A	VEX7-32A	VEX9-32A
Foot (With bolt and washer)	F	VEX1-18-2A	—	VEX3-32-2A	—	—	—	—
Pilot exhaust port P2 silencer <small>(Note)</small>	N	AN120-M5				AN210-02		

Note) Only with solenoid.

Mass

(kg)

Model	VEX312□-01 02	VEX322□-01 02	VEX332□-02 03 04	VEX342□-02 03 04	VEX350□-04 06 10	VEX370□-10 12	VEX390□-14 20
Air operated	0.1	0.2	0.3	0.6	1.4	2.1	3.3
Solenoid	0.2	0.3	0.4	0.7	1.6	2.3	3.5