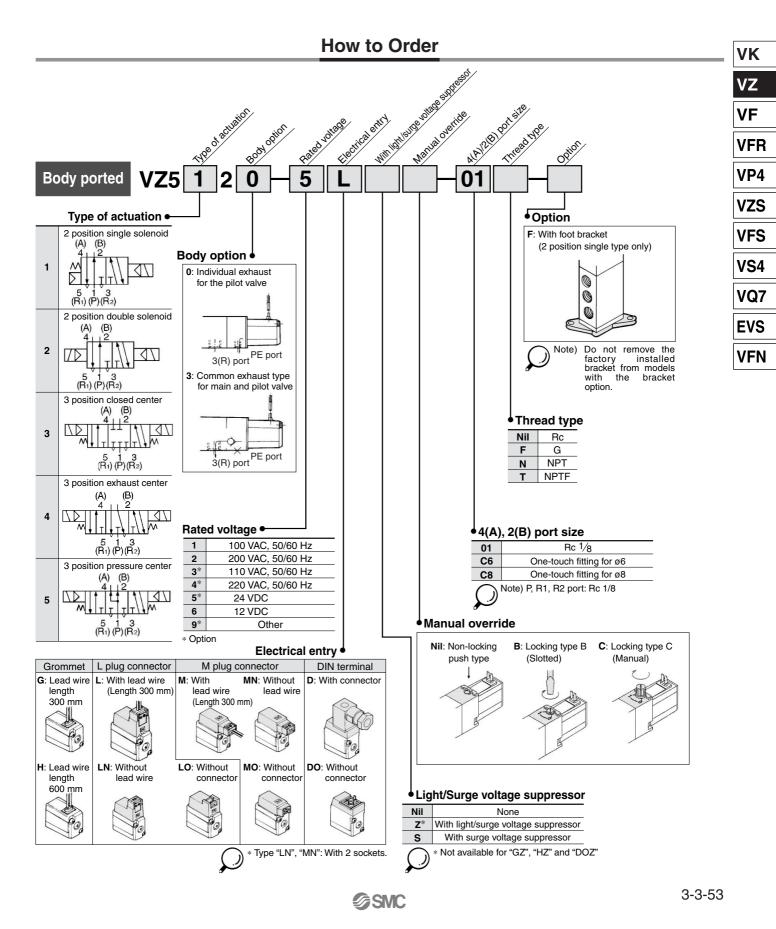


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5 Port Solenoid Valve Body Ported Series VZ5000



Applicable for cylinder actuation (up to ø50).

Compact size (Width: 18 mm) Low power consumption: 1.8 W DC







Specifications								
Fluid		Air						
Operating processo	2 position single	0.15 to 0.7						
Operating pressure range (MPa)	2 position double	0.1 to 0.7						
Talige (IVIT a)	3 position	0.15 to 0.7						
Ambient and fluid te	mperature (°C)	ition single, double 20 or less 3 position 50 or less						
Response time (ms) (1)	2 position single, double	20 or less						
(at the pressure of 0.5 MPa)	3 position	50 or less						
Max. operating	2 position single, double	10						
frequency (Hz)	3 position	3						
Effective area		Refer to the table below.						
Manual override (2)		Non-locking push type, Locking slotted type, Locking lever type						
Pilot exhaust metho	d	Individual pilot exhaust type, Common exhaust (pilot and main valve) type						
Lubrication		Not required						
Mounting orientation	า	Unrestricted						
Impact/Vibration res	istance (m/s ²)(3)	300/50						
Enclosure		Dustproof						
rated	voltage, without surge sup	e test, JIS B 8375-1981. (Coil temperature: 20°C, at pressor) manually apply torque of 0.2 Num or less						

Note 1) Based on dynamic performance test, JIS B 8375-1981. (Coil temperature: 20°C, at rated voltage, without surge suppressor) Note 2) When operating the locking type manually, apply torque of 0.2 N·m or less. Note 3) 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 and de-energized states in the axial direction and at the right angles to the main valve and armature. (Values at the initial period)

Solenoid Specifications

* Option

Electrical entry			Grommet (G)/(H), L plug connector (L), M plug connector (M), DIN terminal (D)		
Call rated valtage ()()	AC 50/60 Hz		100, 200, 24*, 48*, 110*, 220*		
Coil rated voltage (V)	DC		24, 6*, 12*, 48*		
Allowable voltage fluctuation (%)			-15 to +10% of rated voltage		
Power consumption (W) Note) [Current mA]	DC		1.8 (With indicator light 2.1) [24 VDC: 75 (With indicator light 87.5)]		
Apparent power (VA) Note)	4.0	Inrush	4.5/50 Hz, 4.2/60 Hz 100 VAC: 45/50 Hz, 42/60 Hz 200 VAC: 22.5/50 Hz, 21/60 Hz		
[Current mA]	AC	Holding	3.5/50 Hz, 3/60 Hz 100 VAC: 35/50 Hz, 30/60 Hz 200 VAC: 17.5/50 Hz, 15/60 Hz		
Surge voltage suppressor			DC: Diode, AC: ZNR		
Indicator light			DC: LED (Red), AC: Neon bulb		
Note) At rated voltage					



Made to Order Specifications (For details, refer to page 3-3-85.)

5 Port Solenoid Valve Body Ported Series VZ5000

Use as a guide for selection.

Flow Characteristics/Weight

			Port	size		F	-low charac	cteristics Note)			Maight (g)	
Valve model	Тур	e of actuation	1, 5, 3	4, 2	1 →	$4/2 (P \rightarrow A)$	/B)	$4/2 \rightarrow 5/$	'3 (A/B \rightarrow E	EA/EB)	Weight (g)	
			(P, EA, EB)	(A, B)	C [dm³/(s⋅bar)]	b	Cv	C [dm³/(s·bar)]	b	Cv	Grommet	
	2	Single			2.2	0.00	0.50	0.4	0.34	0.00	120	
	position	Double			2.2	0.36	0.58	2.4	0.34	0.63	160	
	3	Closed center	Rc 1/8	Rc 1/8	1.8	0.37	0.45	2.0	0.35	0.49		
VZ5□20-□-01	position	Exhaust center			1.2	0.50	0.34	3.0[1.3]	0.35[0.52]	0.73[0.39]	160	
		Pressure center			3.0 [0.83]	0.37[0.50]	0.78[0.25]	1.8	0.37	0.45		
	2	Single			1.6	0.33	0.4	2.2	0.32	0.53	120	
	position	Double		C6	1.0	0.33	0.4	2.2		0.55	160	VK
	3	Closed center	Rc 1/8	(One-touch	1.4	0.27	0.35	1.9	0.33	0.49		
VZ5□20-□-C6	position	Exhaust center		fitting for Ø6)	1.1	0.37	0.27	2.5[1.3]	0.32[0.54]	0.61[0.38]	160	VZ
		Pressure center			1.8 [0.78]	0.36[0.40]	0.45[0.22]	1.6	0.30	0.39		
	2	Single			2.0	0.39	0.52	2.3	0.34	0.61	120	VF
	position	Double		C8	2.0	0.39	0.52	2.5		0.01	160	VF
	3	Closed center	Rc 1/8	(One-touch	1.7	0.35	0.42	2.0	0.29	0.49		
VZ5□20-□-C8	position	Exhaust center		fitting for ø8)	1.2	0.38	0.33	2.6[1.3]	0.35[0.49]	0.67[0.38]	160	VFR
		Pressure center			1.9 [0.86]	0.57[0.46]	0.59[0.25]	1.7	0.39	0.42		
Note) []: Denote	es the norn	nal position. Exhaus	t center: 4/2	$2 \rightarrow 5/3$, Pres	ssure center: 1	$\rightarrow 4/2$						VP4
_												V79

Cylinder Speed Chart

Cylinder Sp	beed Ch	art							onfirm the a		itions with	SMC Sizin	g Program.	V
Series	Average speed (mm/s)	Series CJ Pressure (Load facto Stroke 60	0.5 MPa or 50%		Series CM Pressure Load facto Stroke 30	0.5 MPa or 50%	Bore	e size	Series ME Pressure Load facto Stroke 50	or 50%				V
	800 700	ø6	ø10	ø16	ø20	ø25	ø32	ø40	Ø40 749	Ø50 610	ø63		ø100 endicular,	Ε
VZ5120-01	600 500 400 300 200 100 0	214	286	310			-360-	475 301	487	379			rd actuation ntal actuation 103 159	V

* It is when the cylinder is extending that is meter-out controlled by speed controller which is directly connected with cylinder, and its needle valve with being fully open.

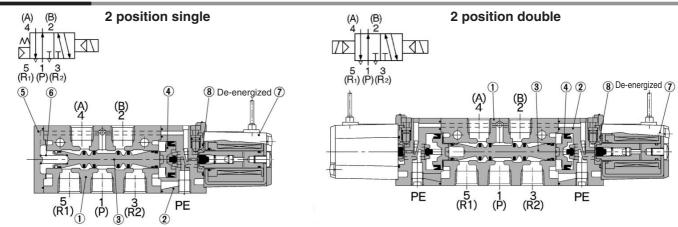
* The average velocity of the cylinder is what the stroke is divided by the total stroke time.

* Load factor: ((Load weight x 9.8)/Theoretical force) x 100% Note) The Series CA1 has been changed to the Series CA2.

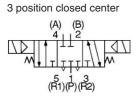
Conditions

	Body ported	Series CJ2	Series CM2	Series MB
Tube boreVZ5120-01Speed con	Tube bore x Length	ø6 x 1 m	ø6 x 1 m	ø12 x 1 m
	Speed controller	AS2301F-06	AS3301F-06	AS4001F-12
	Silencer	AN110-01	AN20	00-02

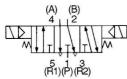
Construction



3 position closed center/exhaust center/pressure center



3 position exhaust center



De-energized 2 1 3 9 0 De-energized 7 PE 5,1 (P) 3 PE (R2) Chis figure show

(This figure shows a closed center type.)

3 position pressure center

(A) 4) (B)	
(R1	1)(P)(R2)	

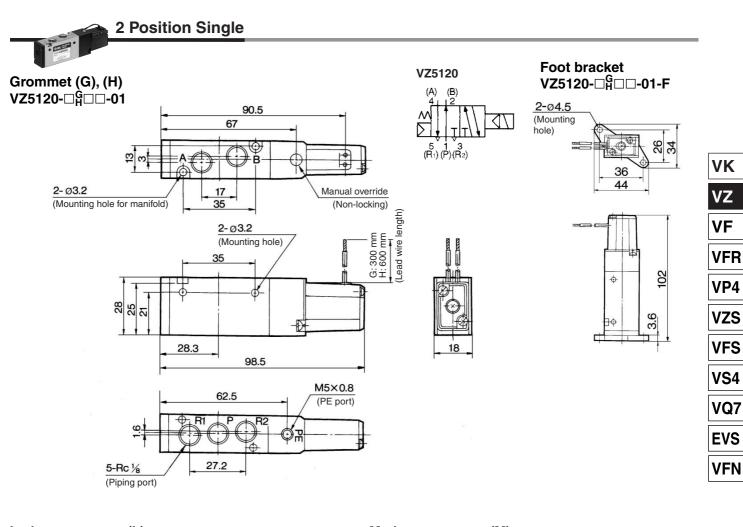
Component Parts

No.	Description	Material	Note
1	Body	Aluminum die-casted	Platinum silver
2	Piston plate	Resin	Black
3	Piston	Resin	
4	Spool valve	Aluminum, HNBR	
(5)	End cover	Resin	Black painted
6	Spool spring	Stainless steel	

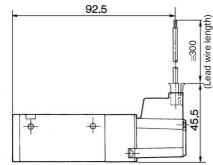
Replacement Parts

		arto		
No.	Description	Material	Part no.	Note
7	Solenoid assembly	Epoxy/Stainless steel	DXT170-C-□□□	
8	O-ring	NBR		Common with Series VZ ₃ ¹ 000

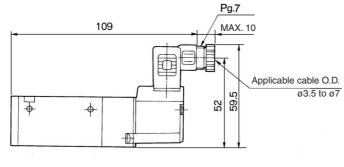
5 Port Solenoid Valve Body Ported Series VZ5000



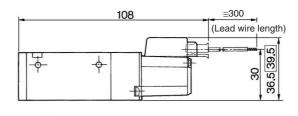
L plug connector (L) VZ5120-□L□□-01



DIN terminal (D) VZ5120-DDD-01



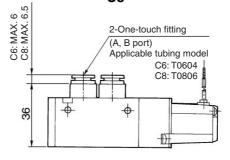
M plug connector (M) VZ5120-□M□□-01



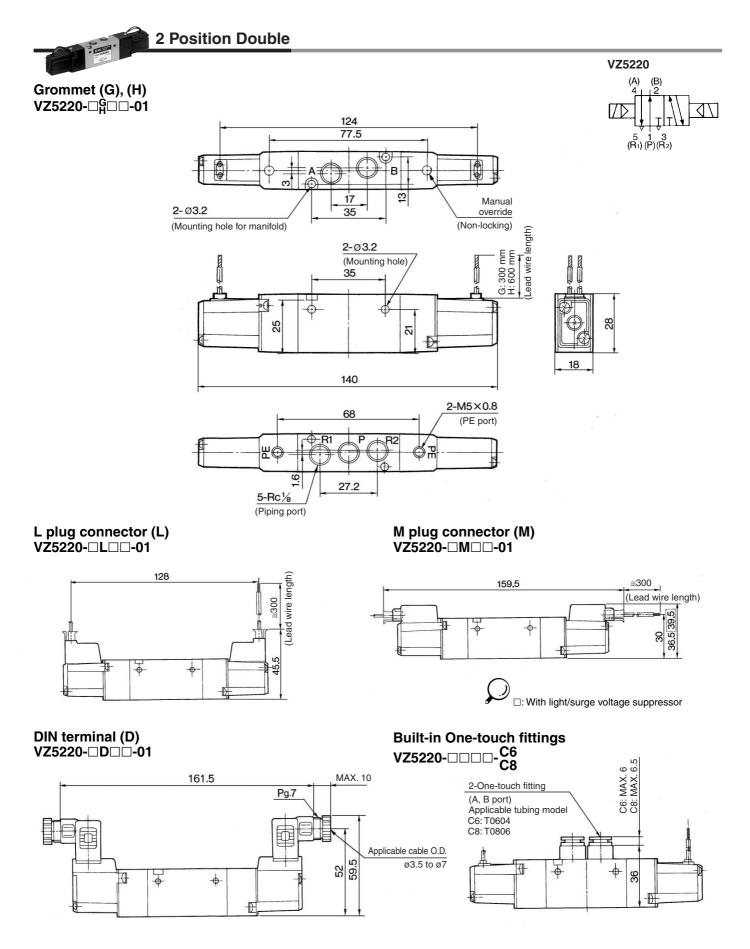
└ □: With light/surge voltage suppressor

Built-in One-touch fittings VZ5120-□□□-^{C6} C8

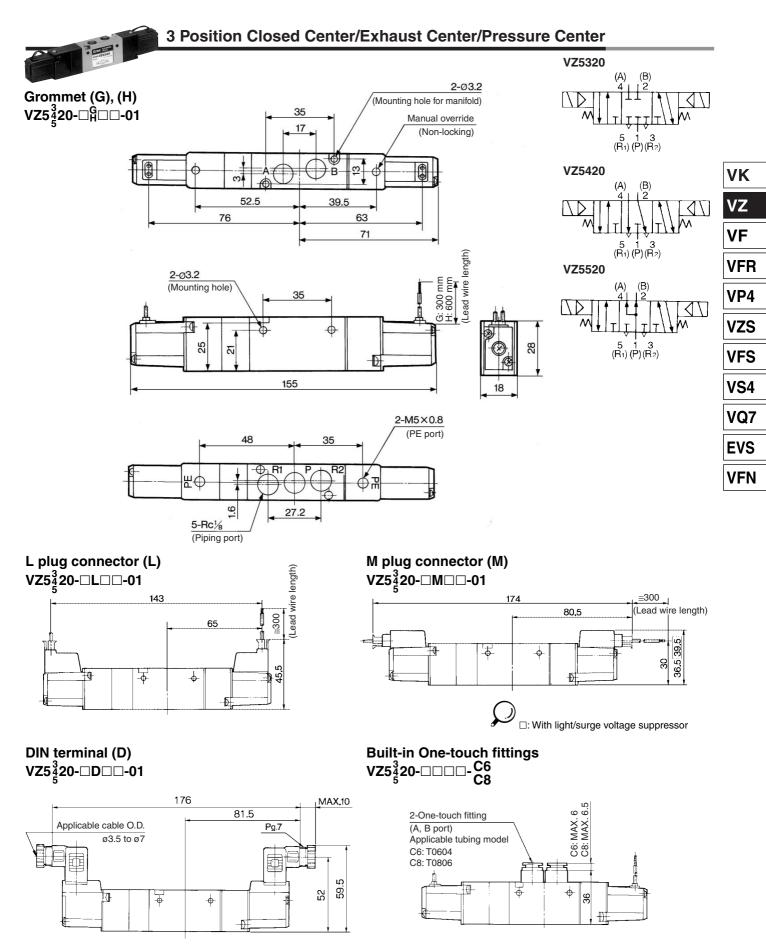
SMC

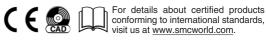


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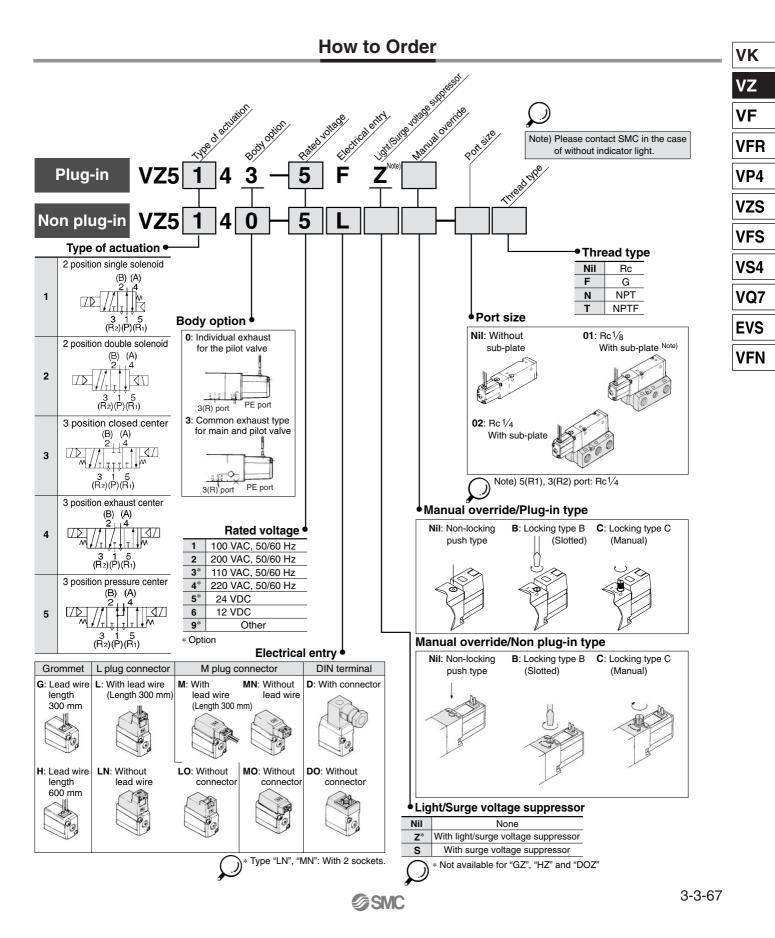


5 Port Solenoid Valve Body Ported Series VZ5000





5 Port Solenoid Valve Base Mounted Series VZ5000



Applicable for cylinder actuation (up to ø50).

Compact size (Width: 18 mm)

Low power consumption: 1.8 W DC







Made to Order Specifications (For details, refer to page 3-3-85.)

Specifications

opecifications						
Fluid		Air				
0	2 position single	0.15 to 0.7				
Operating pressure	2 position double	0.1 to 0.7				
range (MPa)	3 position	0.15 to 0.7				
Ambient and fluid ter	nperature (°C)	-10 to 50°C (No freezing. Refer to page 3-13-4.)				
Response time (ms)(1)	2 position single, double	20 or less				
(at the pressure of 0.5 MPa)		50 or less				
Max. operating	2 position single, double	10				
frequency (Hz)	3 position	3				
Effective area		Refer to the table below.				
Manual override (2)		Non-locking push type, Locking slotted type, Locking lever type				
Pilot exhaust		Individual pilot exhaust, Common exhaust (pilot and main valve) Common exhaust port for the pilot and main valve				
Lubrication		Not required				
Mounting orientation	1	Unrestricted				
Impact /Vibration res	sistance (m/s ²) ⁽³⁾	300/50				
Enclosure		Dustproof				
Note 1) Based	on dynamic performanc	e test JIS B 8374-1981 (Coil temperature: 20°C at				

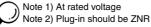
Note 1) Based on dynamic performance test, JIS B 8374-1981. (Coil temperature: 20°C, at rated voltage, without surge suppressor)

Note 2) When operating the locking type manually, apply torque of 0.2 N·m or less. Note 3) 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 and de-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)/(H), L plug connector (L), M plug connector (M), DIN terminal (D)		
	AC 50/60 Hz		100, 200, 24*, 48*, 110*, 220*		
Coil rated voltage (V)	DC		24, 6*, 12*, 48*		
Allowable voltage fluctuation (%)			-15 to +10% of rated voltage		
Power consumption (W) ⁽¹⁾ [Current mA]	DC		1.8 (With indicator light 2.1) [24 VDC: 75 (With indicator light 87.5)]		
Apparent power (VA) ⁽¹⁾	AC	Inrush	4.5/50 Hz, 4.2/60 Hz 100 VAC: 45/50 Hz, 42/60 Hz 200 VAC: 22.5/50 Hz, 21/60 Hz		
[Current mA]	AC	Holding	3.5/50 Hz, 3/60 Hz $\begin{bmatrix} 100 \text{ VAC: } 35/50 \text{ Hz}, 30/60 \text{ Hz} \\ 200 \text{ VAC: } 17.5/50 \text{ Hz}, 15/60 \text{ Hz} \end{bmatrix}$		
Surge voltage suppressor			DC: Diode, AC: ZNR ⁽²⁾		
Indicator light			DC: LED (Red), AC: Neon bulb		



5 Port Solenoid Valve Base Mounted Series VZ5000

Flow Characteristics/Weight

			Port	size			Flow chara	cteristics ⁽¹⁾			Weight (g) ⁽²⁾
Valve model	Type of actuation		1, 5, 3	4, 2	$1 \rightarrow 4/2 \ (P \rightarrow A/B)$			$4/2 \rightarrow 5/3 (A/B \rightarrow EA/EB)$			
			(P, EA, EB)	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Cv	Grommet					
	2	Single			2.2	0.45	0.57	20	0.07	0.71	200(120)
	position	Double			2.5	0.45	0.57	2.0	0.37	0.71	240(160)
VZ5⊡40-⊡-01	3 position	Closed center	Rc 1/8	Rc 1/8	1.9	0.36	0.48	2.1	0.46	0.57	240(160)
		Exhaust center			1.2	0.48	0.35	3.4[1.3]	0.36[0.57]	0.86[0.41]	
		Pressure center			3.3[0.85]	0.43[0.54]	0.78[0.25]	2.1	0.45	0.56	
	2	Single							0.35	0.74	200(120)
	position	Double			2.3	0.41	0.61	2.9			240(160)
VZ5□40-□-02	0	Closed center	Rc 1/4	Rc 1/4	1.9	0.46	0.50	2.2	0.44	0.60	
	3 position	Exhaust center			1.3	0.45	0.35	3.7[1.4]	0.27[0.56]	0.87[0.43]	240(160)
	position	Pressure center			3.6[0.83]	0.23[0.55]	0.84[0.25]	2.1	0.47	0.58	
Note 1) []: Denc	otes the	normal position. Ex	chaust cente	er: $4/2 \rightarrow 5$	/3, Pressure o	center: 1 \rightarrow	4/2				

Note 2) (): Without sub-plate.

Use as a guide for selection.

ylinder Speed Chart		Please confirm the actual conditions with SMC Sizing Program							
				Bore size					
Series	Average speed (mm/s)	Pressure 0.5 M Load factor 509 Stroke 500 mm	% I						
		ø40	ø50	ø63	ø80	ø100			
VZ514□-□□□-02□ (Piping: ø6 x 1 m)	800 700 600 500 400 300 200 100					Perpendicular, upward actuation Horizontal actuation			
Speed controller/Silen	cer		AS3301	F-02-060/AN	1200-2				
		!							
VZ514□-□□□-02□ (Piping: ø8 x 1 m)	800 700 600 500 400 300 200 100					Perpendicular, upward actuation Horizontal actuation			
Speed controller/Silen	oor		A \$2201	F-□02-08□/AN	1200.2				
Speed controller/Silen	Cei		A33301		1200-2				
VZ514□-□□□-02□ (Piping: ø10 x 1 m)	800 700 600 500 400 300 200 100					Perpendicular, upward actuation Horizontal actuation			
Speed controller/Silen	cer		AS3301	F-□02-10□/AN	1200-2				
VZ514□-□□□-02□ (Piping: ø12 x 1 m)	800 700 600 500 400 300 200 100					Perpendicular, upward actuation Horizontal actuation			
Speed controller/Silen			A \$ 4001	F-□02-12□/AN					
		1	05/001		1200-2				

* The average velocity of the cylinder is what the stroke is divided by the total stroke time.

* Load factor: ((Load weight x 9.8)/Theoretical force) x 100%

VK

VZ

VF

VFR

VP4

VZS

VFS

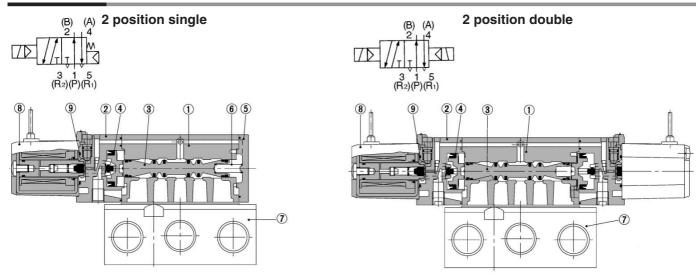
VS4

VQ7

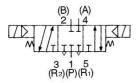
EVS

VFN

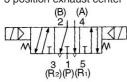
Construction

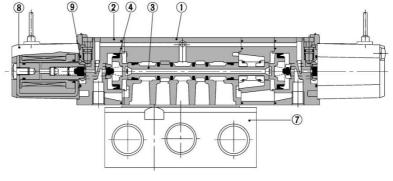


3 position closed center



3 position exhaust center





3 position closed center/exhaust center/pressure center

(This figure shows a closed center type.)

Component Parts

	-		
No.	Description	Material	Note
1	Body	Aluminum die-casted	Platinum silver
2	Piston plate	Resin	Black
3	Piston	Aluminum, HNBR	
4	Spool valve	Resin	
5	End cover	Resin	Black painted
6	Spool spring	Stainless steel	

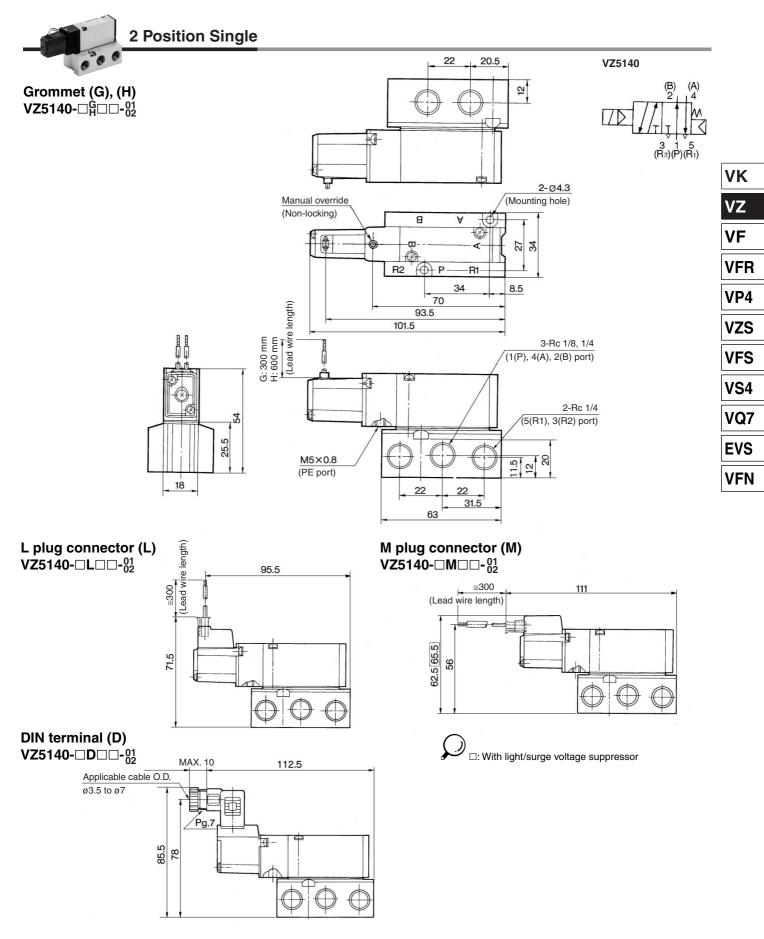
Replacement Parts

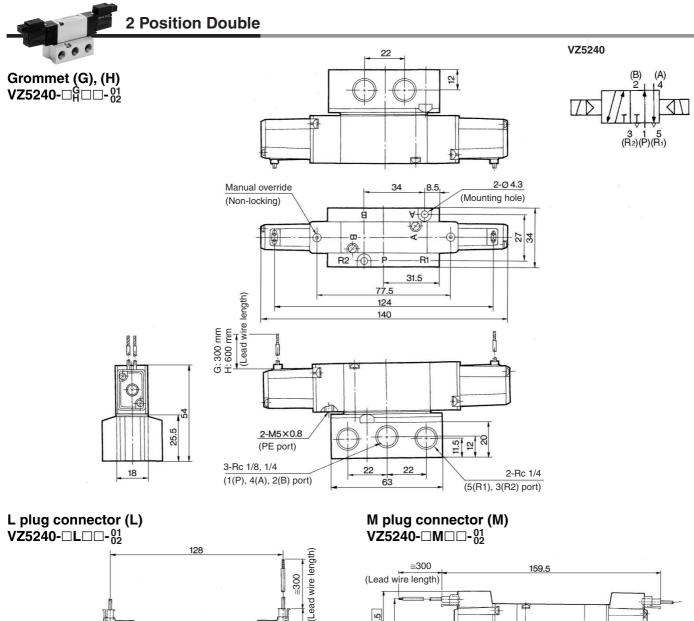
No.	Description	Material	Part no.	Note			
7	Sub-plate	Aluminum	DXT199-7-1*P	Rc 1⁄8			
		die-casted	DXT199-7-2*P	Rc 1⁄4			
8	Solenoid assembly	Epoxy/Stainless steel	DXT170-C-□□□				
9	O-ring	NBR	13 x 11 x 1	Common with Series VZ ₃ ¹ 000			

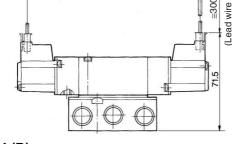
* Thread type Nil: Rc F: G

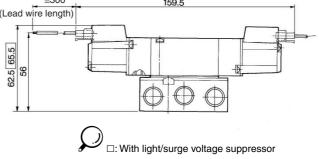
N: NPT T: NPTF

5 Port Solenoid Valve Base Mounted Series VZ5000









DIN terminal (D) VZ5240-DD-01

