

# Series VQ5000

# Base Mounted Plug-in/Plug Lead: Single Unit

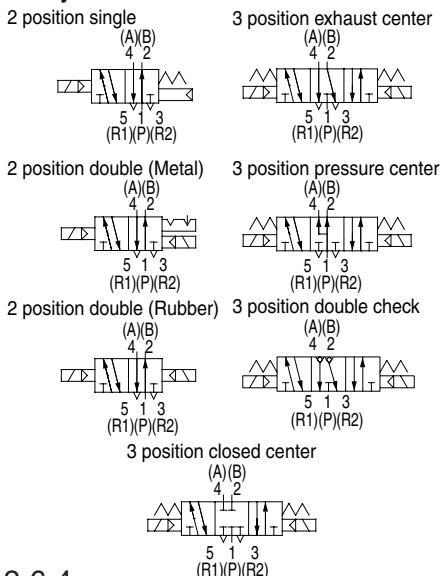
## Model

Series	Number of solenoids		Model		Port size	Flow Characteristics						Response time (ms)			Weight (kg)
						1 → 4/2 (P → A/B)			4/2 → 5/3 (A/B → EA/EB)			Standard 1 W	Low wattage 0.5 W	AC	
						C <sub>d</sub> (dm <sup>3</sup> /(s·bar))	b	C <sub>v</sub>	C <sub>d</sub> (dm <sup>3</sup> /(s·bar))	b	C <sub>v</sub>				
VQ5000	2 position	Single	Metal seal	VQ51 <sub>5</sub> 0	Rc 1/2	12	0.14	2.9	14	0.18	3.4	35 or less	38 or less	38 or less	0.59 (0.67)
			Rubber seal	VQ51 <sub>5</sub> 1		16	0.33	4.4	17	0.31	4.7	40 or less	43 or less	43 or less	0.58 (0.66)
		Double	Metal seal	VQ52 <sub>5</sub> 0		12	0.14	2.9	14	0.18	3.4	20 or less	23 or less	23 or less	0.62 (0.70)
			Rubber seal	VQ52 <sub>5</sub> 1		16	0.33	4.4	17	0.31	4.7	25 or less	28 or less	28 or less	0.60 (0.68)
	3 position	Closed center	Metal seal	VQ53 <sub>5</sub> 0		11	0.24	2.6	11	0.23	2.8	50 or less	53 or less	53 or less	0.65 (0.73)
			Rubber seal	VQ53 <sub>5</sub> 1		12	0.33	3.4	13	0.37	3.7	60 or less	63 or less	63 or less	0.58 (0.66)
		Exhaust center	Metal seal	VQ54 <sub>5</sub> 0		12	0.13	2.9	14	0.18	3.4	50 or less	53 or less	53 or less	0.65 (0.73)
			Rubber seal	VQ54 <sub>5</sub> 1		14	0.39	3.9	16	0.35	4.5	60 or less	63 or less	63 or less	0.58 (0.66)
		Pressure center	Metal seal	VQ55 <sub>5</sub> 0		12	0.23	2.9	13	0.24	3.3	50 or less	53 or less	53 or less	0.65 (0.73)
			Rubber seal	VQ55 <sub>5</sub> 1		13	0.32	3.4	14	0.40	3.9	60 or less	63 or less	63 or less	0.58 (0.66)
		Double check	Metal seal	VQ56 <sub>5</sub> 0		8.0	—	—	8.5	—	—	62 or less	65 or less	65 or less	1.17 (1.25)
			Rubber seal	VQ56 <sub>5</sub> 1		8.3	—	—	9.0	—	—	75 or less	78 or less	78 or less	1.10 (1.18)

Note) Value for valve on sub-plate.



### JIS Symbol



## Standard Specifications

Valve specifications	Valve construction		Metal seal	Rubber seal
	Fluid		Air/Inert gas	
	Maximum operating pressure <sup>(3)</sup>		1.0 MPa	
	Min. operating pressure	Single	0.10 MPa	0.20 MPa
		Double	0.10 MPa	0.15 MPa
		3 position	0.15 MPa	0.20 MPa
	Proof pressure		1.5 MPa	
	Ambient and fluid temperature		-5 to 50°C <sup>(1)</sup>	
	Lubrication		Not required	
	Manual override		Push type/Locking type (Tool required) Option	
Shock/Vibration resistance		150/30 m/s <sup>2</sup> <sup>(2)</sup>		
Protection structure		Dust tight (IP65 compatible)		
Solenoid specifications	Coil rated voltage		12, 24 VDC, 100, 110, 200, 220 VAC (50/60 Hz)	
	Allowable voltage fluctuation		±10% of rated voltage	
	Coil insulation type		Class B or equivalent	
	Power consumption (Current)	24 VDC	1 W DC (42 mA), 0.5 W DC (21 mA) <sup>(3)</sup>	
		12 VDC	1 W DC (83 mA), 0.5 W DC (42 mA) Note <sup>(3)</sup>	
		100 VAC	Inrush 1.2 VA (12 mA), Holding 1.2 VA (12 mA)	
110 VAC		Inrush 1.3 VA (11.7 mA), Holding 1.3 VA (11.7 mA)		
200 VAC	Inrush 2.4 VA (12 mA), Holding 2.4 VA (12 mA)			
220 VAC	Inrush 2.6 VA (11.7 mA), Holding 2.6 VA (11.7 mA)			



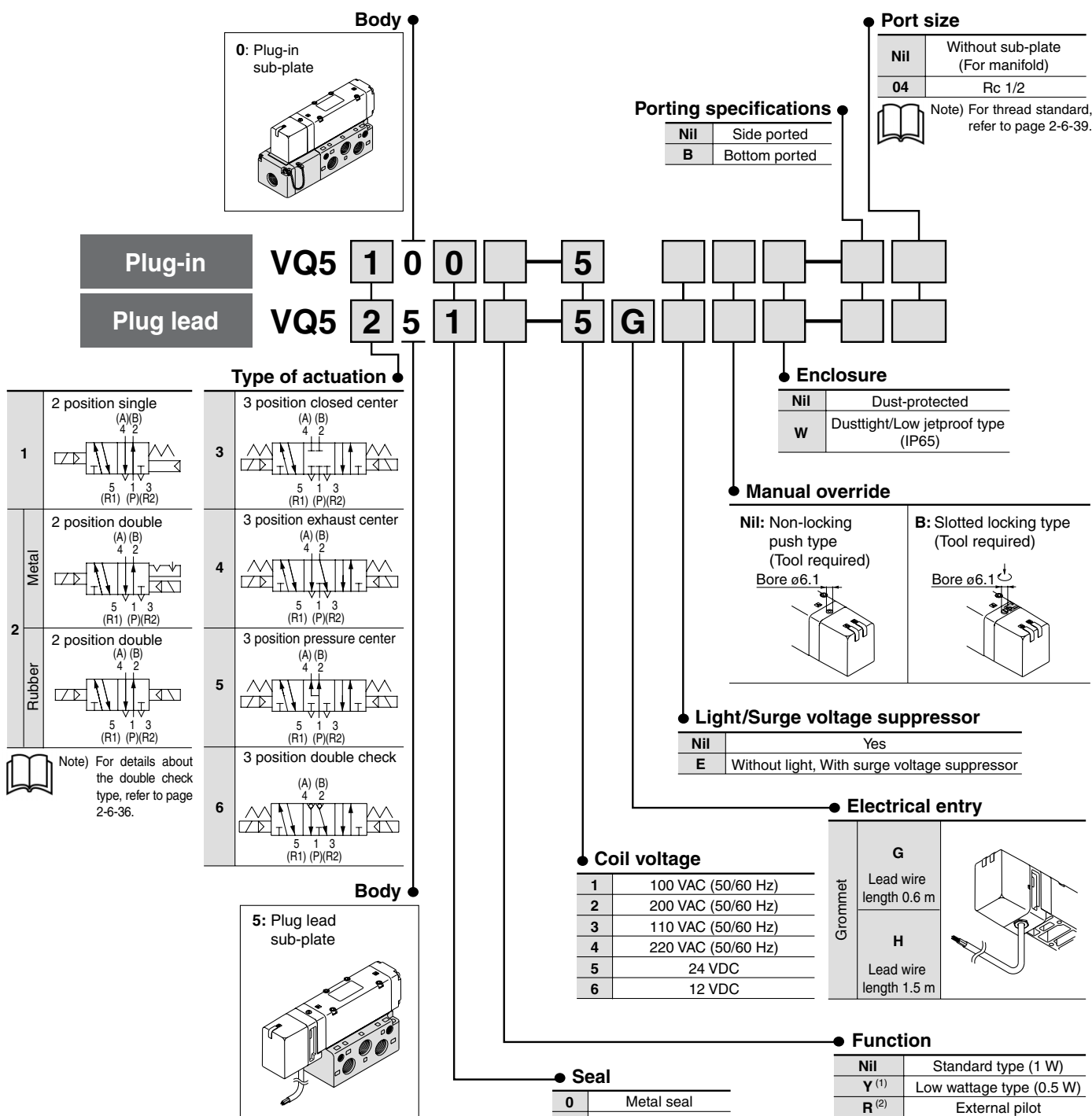
Note 1) Use dry air to prevent condensation when operating at low temperatures.

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 and de-energized states in the axial direction and at the right angles to the main valve and armature. (Values at the initial period)

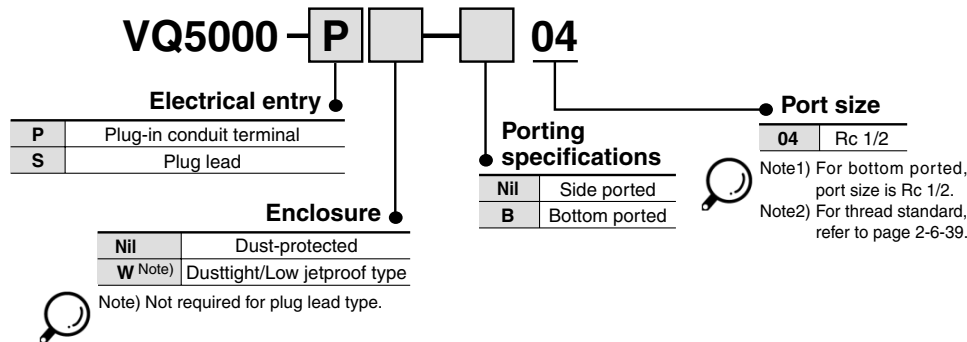
Note 3) Values inside ( ) denote the low wattage (0.5 W) specifications.

### How to Order Valves



- VQC
- SQ
- VQ0
- VQ4
- VQ5**
- VQZ
- VQD

### How to Order Sub-plates



**Replacement of pilot valve assembly (Voltage)**

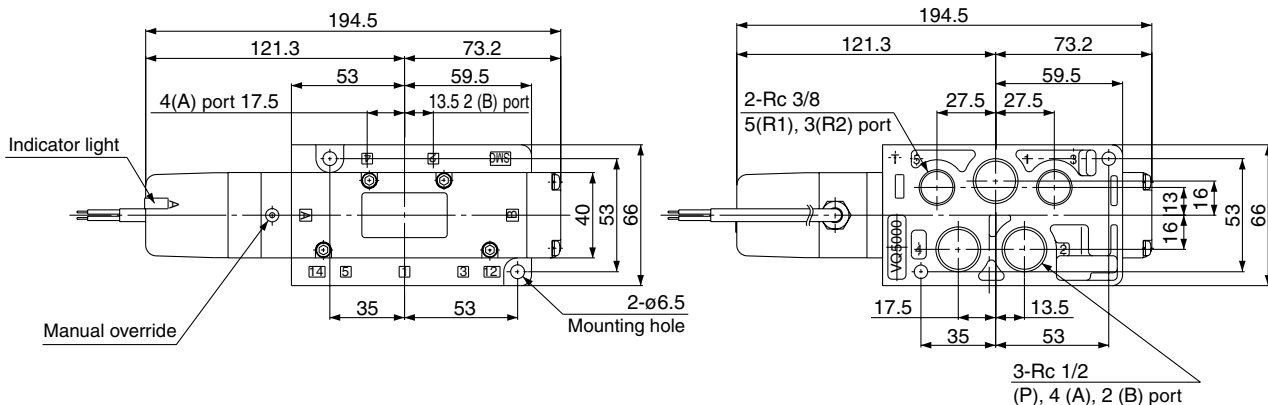
- Refer to pages 2-6-40 to 2-6-41 for pilot valve assembly part numbers.
- Refer to page 2-6-3 for replacement method.

# Plug-in/Plug Lead: Single Unit Series VQ5000

## Plug Lead Type

### Grommet

2 position single: VQ515<sup>0</sup>-□<sup>G</sup><sub>H</sub>



VQC

SQ

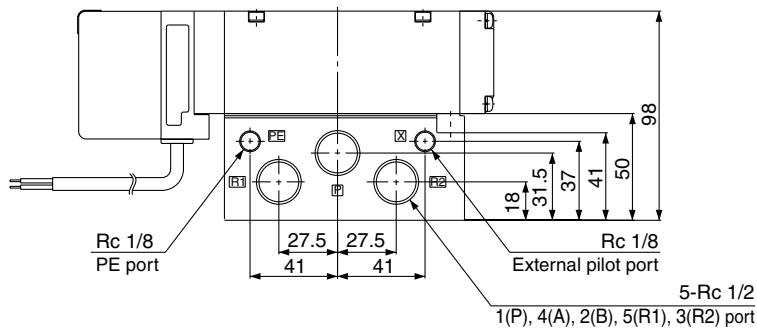
VQ0

VQ4

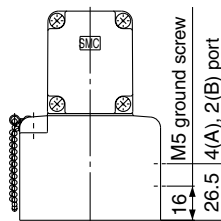
**VQ5**

VQZ

VQD



Bottom ported drawing

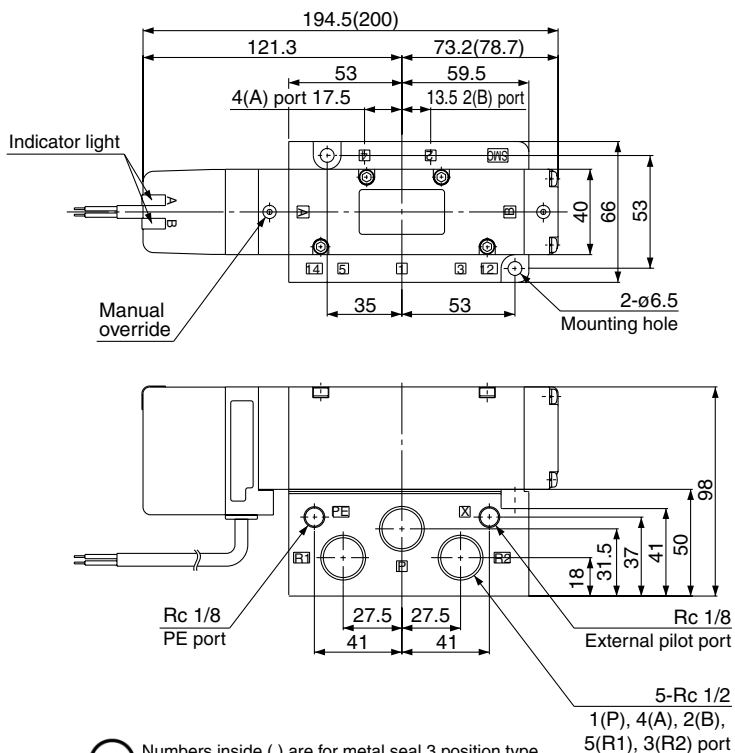


2 position double: VQ525<sup>0</sup>-□<sup>G</sup><sub>H</sub>

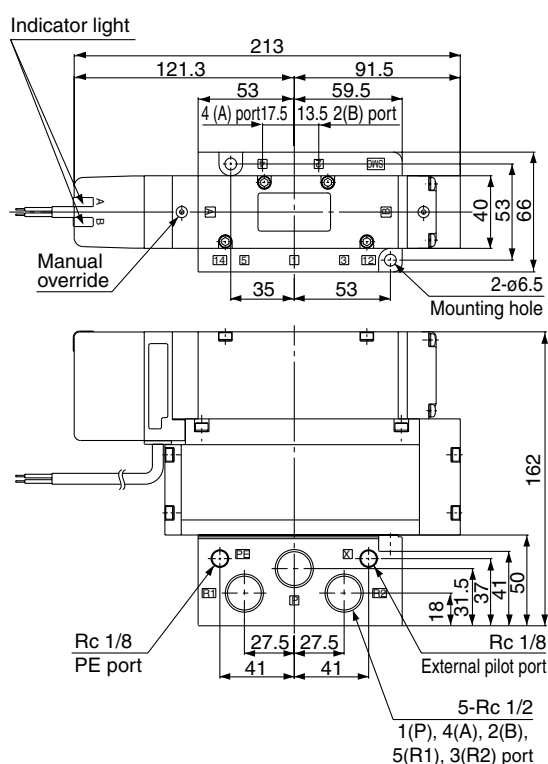
3 position closed center: VQ535<sup>0</sup>-□<sup>G</sup><sub>H</sub>

3 position exhaust center: VQ545<sup>0</sup>-□<sup>G</sup><sub>H</sub>

3 position pressure center: VQ555<sup>0</sup>-□<sup>G</sup><sub>H</sub>



3 position double check: VQ565<sup>0</sup>-□<sup>G</sup><sub>H</sub>

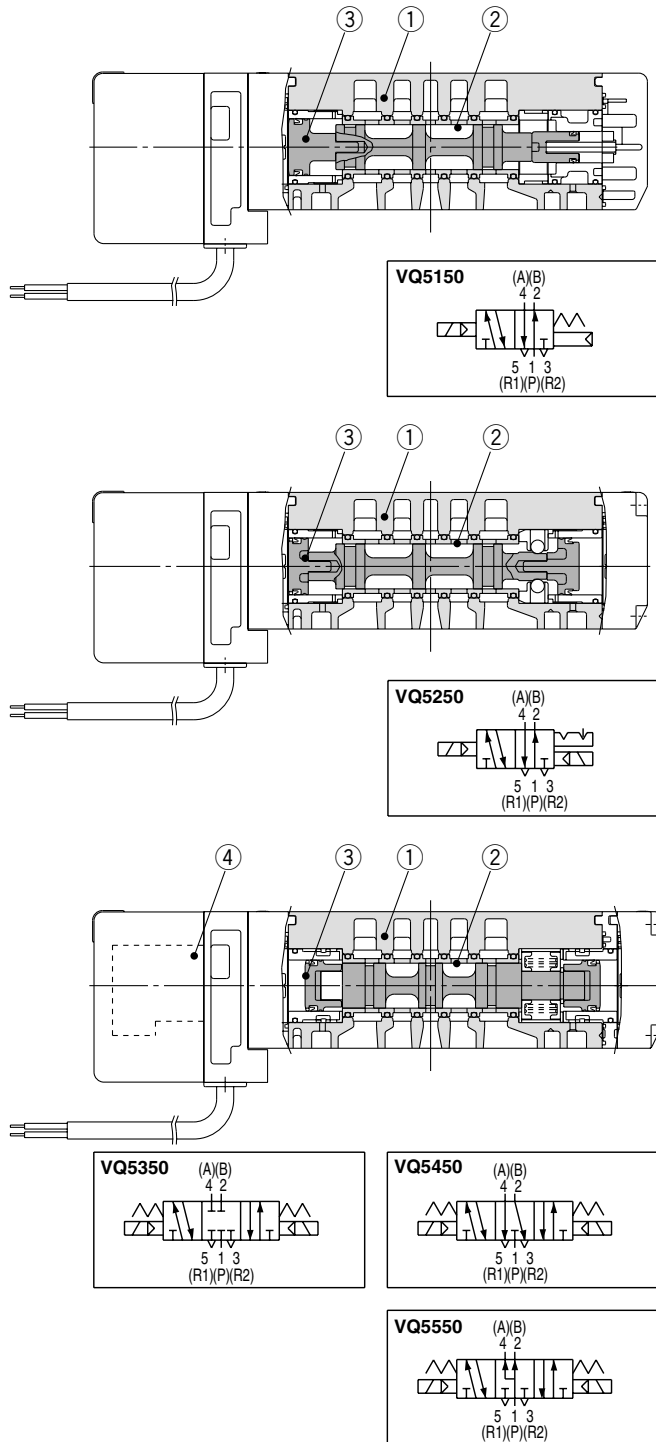


Numbers inside ( ) are for metal seal 3 position type

# Series VQ5000 Construction

## Plug Lead Unit

### Metal seal



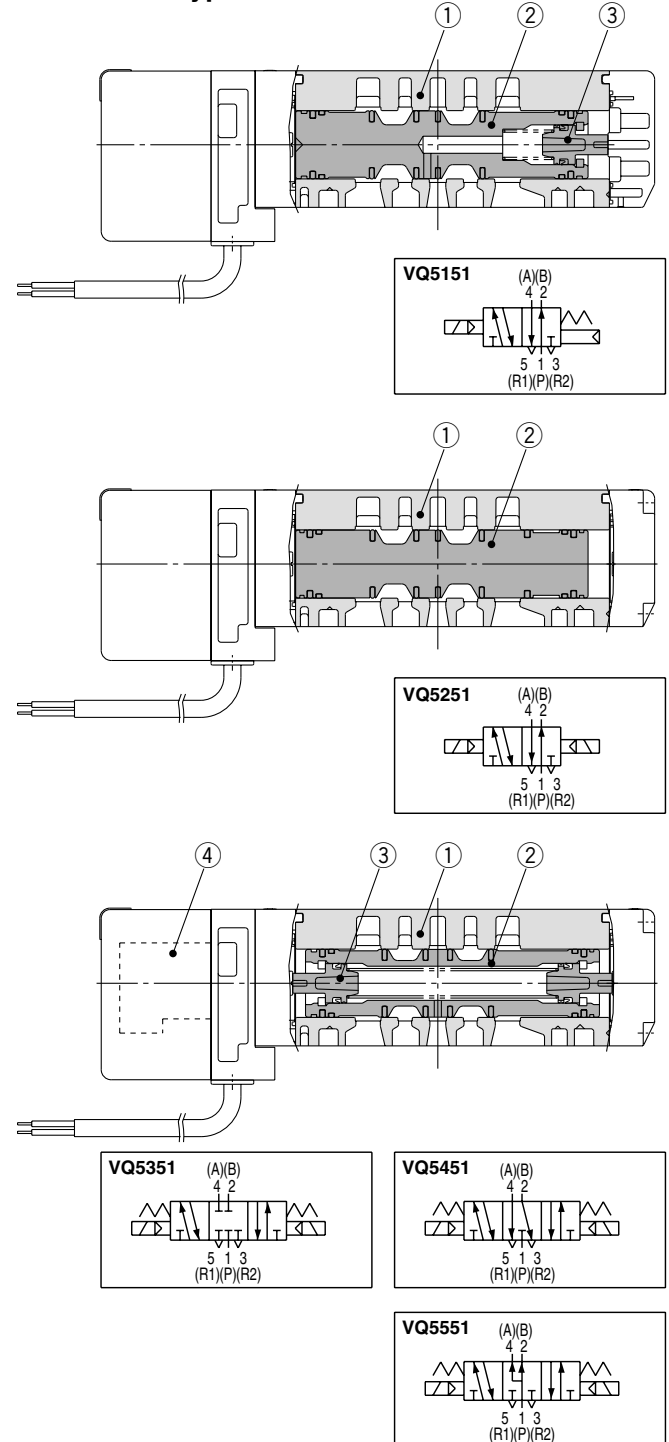
### Component Parts

Number	Description	Material	Note
①	Body	Aluminum die-casted	
②	Spool/Sleeve	Stainless steel	
③	Piston	Resin	

### Replacement Parts

④	Pilot valve assembly	VQZ111P-□	* Coil rated voltage Example) 24 VDC: 5
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### Rubber seal type



### Component Parts

Number	Description	Material	Note
①	Body	Aluminum die-casted	
②	Spool valve	Aluminum, NBR	
③	Piston	Resin	

### Replacement Parts

④	Pilot valve assembly	VQZ111P-□	* Coil rated voltage Example) 24 VDC: 5
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VQC

SQ

VQ0

VQ4

VQ5

VQZ

VQD