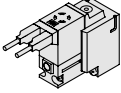
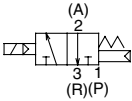
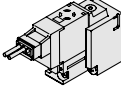
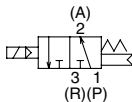
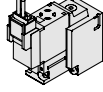
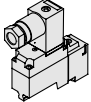


# 3 Port Solenoid Valve

## Metal Seal/Rubber Seal, Base Mounted

# Series VQZ100/200/300

### Series Variations

		Sonic conductance C [dm <sup>3</sup> /(s·bar)]		Type of actuation	Voltage	Electrical entry	With light/surge voltage suppressor	Manual override	
<b>Base Mounted</b>	<b>3 port</b>	<b>VQZ100</b>	Metal — Rubber (Poppet) 1.0			Grommet (G) 			V100
		<b>VQZ200</b>	2.0 3.0	 N.C.	(Standard) 12 VDC 24 VDC	L plug connector (L) 	With light/surge voltage suppressor	Non-locking push type (Tool required)	SY SYJ VK VZ VT VP VG VP
		<b>VQZ300</b>	3.2 4.1	 N.O. (Except VQZ100)	(Option) 100 VAC 200 VAC 110 VAC 220 VAC	M plug connector (M) 	L plug connector (L) M plug connector (M)		Locking type (Tool required)
						DIN terminal (Y) 	DIN terminal (YZ) ( Except VQZ100 )		

## ⚠ Precautions

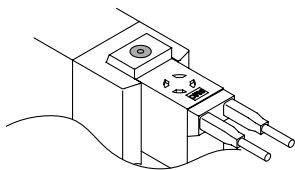
Be sure to read before handling. For Safety Instructions and Solenoid Valve Precautions, refer to page 4-18-2.

### Manual Override

#### ⚠ Warning

Without an electric signal for the solenoid valve the manual override is used for switching the main valve. Non-locking push type (tool required) is standard. Locking type (tool required) is available as an option.

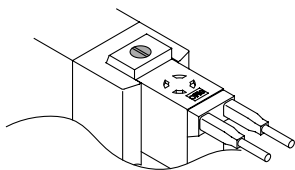
#### Push type (Tool required)



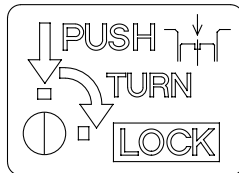
Push down on the manual override button with a small screwdriver until it stops. Release the screwdriver and the manual override will return.

#### Locking type (Tool required)

VQZ200  
VQZ300

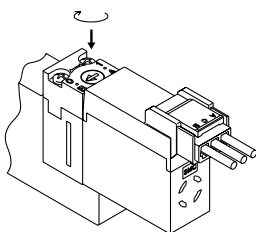


Push down completely on the manual override button with a small screwdriver. While down, turn clockwise 90° to lock it. Turn it counterclockwise to release it.



#### Locking type (Tool required)

VQZ100



If the manual override is turned by 180° clockwise and the ► mark is adjusted to 1, then pushed in the direction of an arrow (↓), it will be locked in the ON state. If the manual override is turned by 180° counterclockwise and ► mark is adjusted to 0, locking will be released and the manual override will return.

#### ⚠ Caution

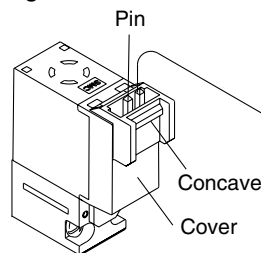
Do not apply excessive torque when turning the locking type manual override. (0.1 N·m or less)

### How to Use L/M Plug Connector

#### ⚠ Caution

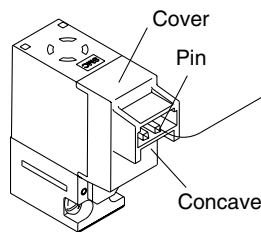
Attaching and detaching connectors

##### M plug connector



To attach a connector, hold the lever and connector unit between your fingers and insert straight onto the pins of the solenoid valve so that the lever's pawl is pushed into the groove and locks.

##### L plug connector



To detach a connector, remove the pawl from the groove by pushing the lever downward with your thumb, and pull the connector straight

Connector part no. AXT661-12

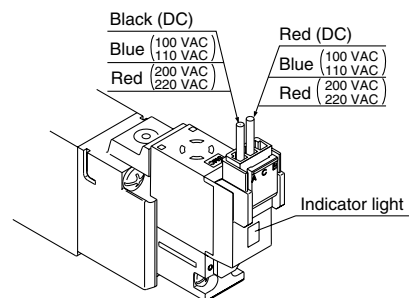
Lead wire  
0.2 to 0.33 mm<sup>2</sup>  
(Max. O.D. ø1.7 mm)



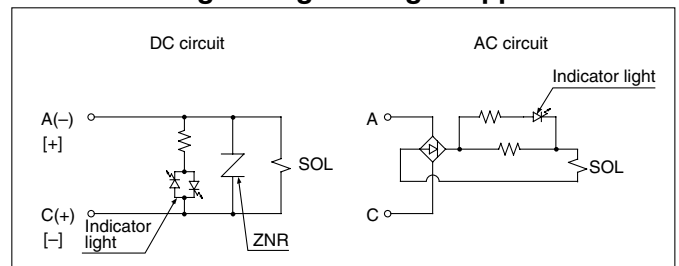
Refer to page 4-14-41 for part no. of plug connector assembly.

### Connection and Electrical Circuit

Connect each lead wire to the power source side, because of no polarity for DC as well.



### Circuit with Light/Surge Voltage Suppressor



No polarity by adopting non-polar light.

## ⚠ Precautions

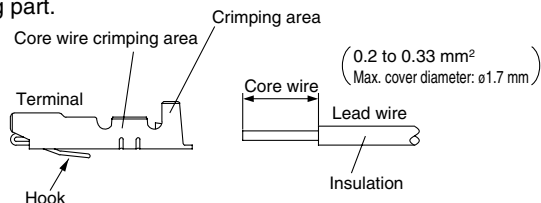
Be sure to read before handling. For Safety Instructions and Solenoid Valve Precautions, refer to page 4-18-2.

### Connection of Lead Wire

(Not necessary if ordering the lead wire pre-connected model.)

#### Crimping of lead wires and sockets

Peel 3.2 to 3.7 mm of the tip of lead wire, enter the core wires neatly into a socket and crimp it with a special crimp tool. Be careful so that the cover of lead wire does not enter into the crimping part.



Tool for crimping: Part no. DXT170-75-1

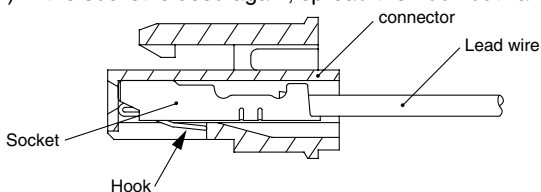
#### Attaching and detaching lead wires with sockets

##### Attaching

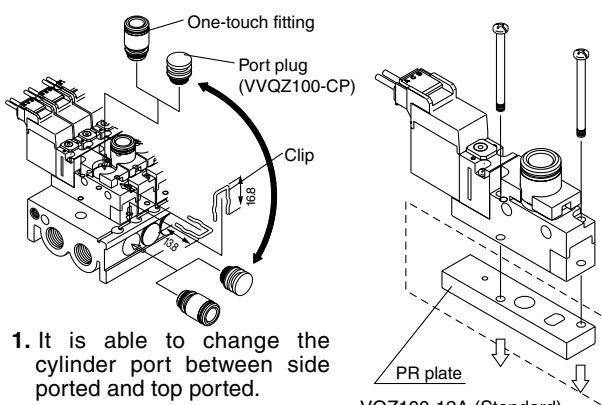
Insert the sockets into the square holes of the connector (with + and - indication) and, continue to push the sockets all the way in until the lock by hooking into the seats in the connector. (When they are pushed in, their hooks open and they are locked automatically.) Then confirm that they are locked by lightly pulling on the lead wire.

##### Detaching

To remove the socket from the connector, pull out lead wire while depressing the hook of the socket with a fine screwdriver (or similar). If the socket is used again, spread the hook outward.



### How to Change Piping Direction for VQZ100



1. It is able to change the cylinder port between side ported and top ported.

Since the fittings and port plug are cassette style, first detach the clip with a flat head screwdriver, etc., and then remove the fittings and port plug.

Changing between side ported and top ported is possible by replacing fittings with port plug.

When mounting for replacement and installment, make sure to insert the fittings and port plug until they stop, and then put the clip into the prescribed position completely.

VQZ100-12A (Standard)  
VQZ100-12B (External pilot)  
\* 2 mounting screws are included with each plate.

2. Abase mount VQZ100 valve can be converted to an individual in-line (body ported) valve by installing an adapter plate on the mounting surface of the valve.

### ⚠ Caution

Whole length of a clip is different from the one for valve and base. If mounting with wrong clips, fittings are likely to pull out. Use caution not to exchange from one to the other.

### How to Wire DIN Terminal

#### Conforming to ISO#: DIN 43650 C (8 mm between pins) Connection

1. Loosen the set screw and pull out the connector from the terminal block of the solenoid.
2. Remove the housing screw and insert a screwdriver into the slot area on the underside of the DIN cap and carefully separate block and housing.
3. Loosen the terminal screws (slotted screws) on the terminal block, insert the core of the lead wire into the terminal in accordance with the prescribed connection method, and attach securely with the terminal screws.
4. Tighten the ground nut to secure the wire.

#### Change of electrical entry (Orientation)

After separating terminal block and housing, the cord entry direction can be changed by attaching the housing in the desired direction (4 directions in 90 increments).

\* In the case of indicator light, avoid damaging the light with lead wire.

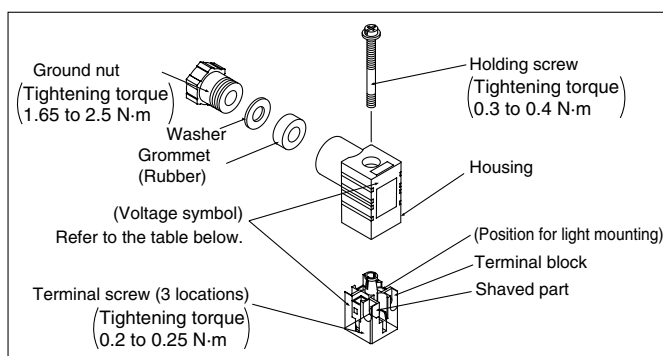
#### Precautions

Pull a connector out vertically, never at an angle.

#### Applicable cable

O.D.: ø3.5 to ø7

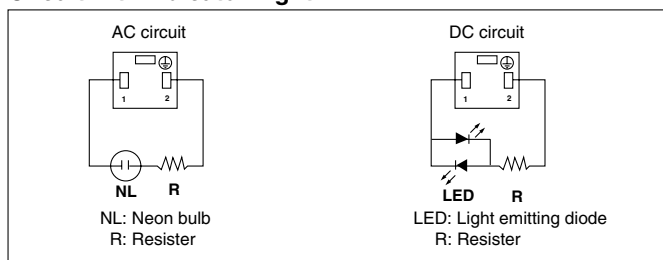
(Reference) 0.5 mm<sup>2</sup> 2 core and 3 core wires equivalent to JIS C 3306.



#### DIN Terminal Part No. (Conforming to DIN)

Without indicator light		AXT100-20-1
<b>With indicator light</b>		
Rated voltage	Voltage symbol	Part no.
24 VDC	24V	AXT100-20-2-05
12 VDC	12V	AXT100-20-2-06
100 VAC	100V	AXT100-20-2-01
200 VAC	200V	AXT100-20-2-02
110 VAC	110V	AXT100-20-2-03
220 VAC	220V	AXT100-20-2-04

#### Circuit with Indicator Light



V100

SY

SYJ

VK

VZ

VT

VP

VG

VP

S070

VQ

VKF

VQZ

VZ

VS

VFN

## Series VQZ100/200/300

## ⚠ Precautions

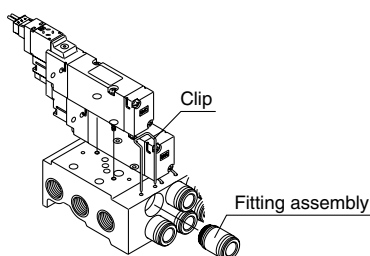
Be sure to read before handling. For Safety Instructions and Solenoid Valve Precautions, refer to page 4-18-2.

### Changing the One-touch Fittings

#### ⚠ Caution

The built-in fittings on the manifold can be changed easily.

Clip prevents the fittings to come off. After removing the corresponding valve and take out the clip with a screwdriver, etc., then replace the fittings. About mounting the fittings, after inserting the fitting until it stops, then put the clip into the prescribed position.



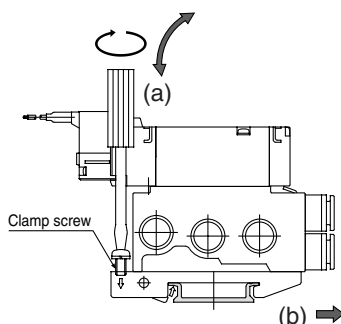
#### Precaution

When pulling the fitting assembly away from the manifold base, remove the clip, then connect a tube or plug (KQP-□□) with the One-touch fitting and pull it out holding the tube or plug. Do not hold the release bushing to avoid damage.

### DIN Rail Removing/Mounting

#### Removing

1. Loosen the clamp screw on the (a) side of both ends of the manifold.
2. Lift the (a) side of the manifold off the DIN rail and slide it in the → direction of the (b) side.



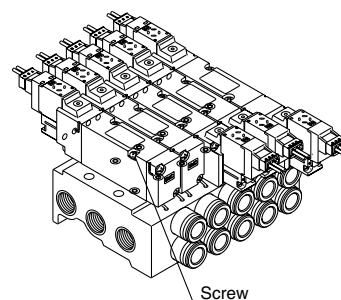
#### Mounting

1. Catch the hook of the DIN rail bracket on the (b) side of the DIN rail.
2. Push side (a) onto the DIN rail and tighten the clamp screw.  
The proper tightening torque for screws 0.3 to 0.4 N·m.

### Valve Mounting

After confirming the gasket is correctly placed under the valve, securely tighten the bolts with the proper torque shown in the table below.

Model	Proper tightening torque
VQZ100	0.13 to 0.19 N·m
VQZ200	0.25 to 0.35 N·m
VQZ300	0.5 to 0.7 N·m



### How to Calculate the Flow Rate

For obtaining the flow rate, refer to page 4-1-6.



V100

SY

SYJ

VK

VZ

VT

VP

VG

VP

S070

VQ

VKF

**VQZ**

VZ

VS

VFN

# 3 Port Solenoid Valve



For details about the applicable products conforming to international standards, visit us at [www.smcworld.com](http://www.smcworld.com).

## Metal/Rubber Seal, Base Mounted, Plug Lead Unit Valve Single Unit

# Series VQZ100/200/300

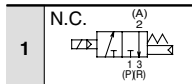
### How to Order Valves: VQZ100

VQZ 1 1 5    - 5 M    - 01

**Series**

1	VQZ100 Body width 10 mm
---	-------------------------

**Type of actuation**



**Body type**

5	Base mounted
---	--------------

**Function**

Symbol	Specifications	DC (1.0 W) <sup>(1)</sup>	AC (0.5 W) <sup>(2)</sup>
Nil	Standard type	○	○ <sup>(3)</sup>
K <sup>(1)</sup>	High pressure type	○	—
Y	Low wattage type	○	—
R <sup>(2)</sup>	External pilot type	○	○

- Note 1) Option
- Note 2) For details about external pilot specifications, refer to page 4-14-40.
- Note 3) For the power consumption of AC type, refer to page 4-14-28.
- Note 4) When two or more symbols are specified, indicate them alphabetically.

**Port size {2(A) port}**

CP	Without sub-plate
01	Rc 1/8

**Manual override**

<p><b>Nil:</b> Non-locking push type (Tool required)</p>	<p><b>B:</b> Locking type (Tool required)</p>
--	---

**Electrical entry**

G: Grommet (DC specifications)	L: L plug connector With lead wire	LO: L plug connector Without connector	M: M plug connector With lead wire	MO: M plug connector Without connector
	With light/surge voltage suppressor	With light/surge voltage suppressor	With light/surge voltage suppressor	With light/surge voltage suppressor

Note) Standard lead wire length: 300 mm.

**Coil 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
9 <sup>(Note)</sup>	Other

Note) For the sub-plate part no, refer to page 4-14-41.

Note) For the special voltages, please consult with SMC.

# 3 Port Solenoid Valve (Valve Single Unit) Metal/Rubber Seal, Base Mounted, Plug Lead Unit Series VQZ100/200/300

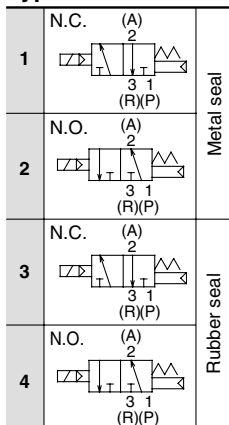
## How to Order Valves: VQZ200/300

VQZ **2** **1** **5** **5** **M**

**Series**

2	VQZ200 Body width 15 mm
3	VQZ300 Body width 18 mm

**Type of actuation**



**Body type**

5	Base mounted
---	--------------

**Function**

Symbol	Specifications	DC	AC
Nil	Standard type	(1.0 W) ○	○ <sup>(3)</sup>
K <sup>(1)</sup>	High pressure type (Metal seal only)	(1.0 W) ○	
Y	Low wattage type	(0.5 W) ○	
R <sup>(2)</sup>	External pilot type	○	○



Note 1) Option



Note 2) For details about external pilot specifications, refer to page 4-14-40.



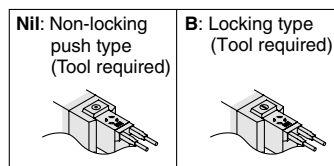
Note 3) For the power consumption of AC type, refer to page 4-14-28.

Note 4) When two or more symbols are specified, indicate them alphabetically.

**Port size {2(A) port}**

Symbol	Port size	VQZ200	VQZ300
Nil	Without sub-plate	○	○
01	Rc 1/8	○	—
02	Rc 1/4	○	○
03	Rc 3/8	—	○

**Manual override**



**Electrical entry**

G: Grommet (DC specifications)	L: L plug connector With lead wire	LO: L plug connector Without connector	M: M plug connector With lead wire	MO: M plug connector Without connector
	With light/surge voltage suppressor	With light/surge voltage suppressor	With light/surge voltage suppressor	With light/surge voltage suppressor
Y: DIN terminal	YO: DIN terminal Without connector	YZ: DIN terminal	YOS: DIN terminal Without connector	YS: DIN terminal
		With light/surge voltage suppressor	With surge voltage suppressor	With surge voltage suppressor

Note) Standard lead wire length: 300 mm.

**Coil 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
9 <sup>Note)</sup>	Other

Note) For the special voltages, please consult with SMC.



Note) For the sub-plate part no, refer to page 4-14-41.

V100

SY

SYJ

VK

VZ

VT

VP

VG

VP

S070

VQ

VKF

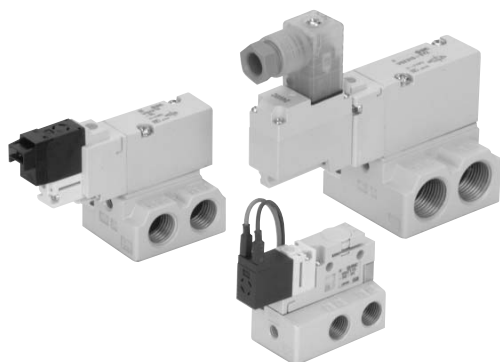
VQZ

VZ

VS

VFN

## Standard Specifications



		Valve construction	Metal seal	Rubber seal	VQZ100 (Poppet seal)
		Fluid		Air/Inert gas	
Valve specifications	Maximum operating pressure	0.7 MPa (High pressure type: 1.0 MPa)	0.7 MPa	0.7 MPa	0.7 MPa (High pressure type: 1.0 MPa)
	Minimum operating pressure	0.1 MPa	0.15 MPa	0.15 MPa	0.15 MPa
	Ambient and fluid temperature	-10 to 50°C <sup>(1)</sup>	-10 to 50°C <sup>(1)</sup>	-10 to 50°C <sup>(1)</sup>	-10 to 50°C <sup>(1)</sup>
	Maximum operating frequency	20 Hz	5 Hz	20 Hz	20 Hz
	Pilot valve EXH	Individual EXH		Common exhaust	
	Lubrication	Not required			
	Pilot valve manual override	Non-locking push type/Slotted locking type (tool required) as an option			
	Shock/Vibration resistance (2)	150/30 m/s <sup>2</sup>			
	Enclosure	Dustproof			
	Coil rated voltage		12, 24 VDC and 100, 110, 200, 220 VAC		
Allowable voltage fluctuation		±10% of rated voltage			
Coil insulation type		Equivalent to class B			
Electricity specifications	Power consumption (Current)	24 VDC	1 W DC (42 mA), 0.5 W DC (21 mA)		
		12 VDC	1 W DC (83 mA), 0.5 W DC (42 mA)		
		100 VAC	Inrush 0.5 VA (5 mA), Holding 0.5 VA (5 mA)		
		110 VAC	Inrush 0.55 VA (5 mA), Holding 0.55 VA (5 mA)		
		200 VAC	Inrush 1.0 VA (5 mA), Holding 1.0 VA (5 mA)		
		220 VAC	Inrush 1.1 VA (5 mA), Holding 1.1 VA (5 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)

## Flow Characteristics/Weight

Series	Valve construction	Model		Flow characteristics						Response time (ms) <sup>(1)</sup>			Weight <sup>(2)</sup> (g)
				1 → 2 (P → A)			2 → 3 (A → R)			Standard type: 1 W	High pressure type: 1.0 W Low wattage type: 0.5 W	AC	
				C [dm <sup>3</sup> /(s·bar)]	b	Cv	C [dm <sup>3</sup> /(s·bar)]	b	Cv				
VQZ100	N.C. valve	Poppet	VQZ115	0.87	0.46	0.23	1.0	0.35	0.25	10 or less	13 or less	22 or less	25
VQZ200	N.C. valve	Metal seal	VQZ215	1.7	0.17	0.38	2.0	0.20	0.45	14 or less	18 or less	34 or less	53
		Rubber seal	VQZ235	2.3	0.46	0.65	3.0	0.40	0.80	15 or less	20 or less	36 or less	
	N.O. valve	Metal seal	VQZ225	1.7	0.18	0.38	1.8	0.21	0.39	14 or less	18 or less	34 or less	
		Rubber seal	VQZ245	2.5	0.43	0.67	3.0	0.30	0.74	15 or less	20 or less	36 or less	
VQZ300	N.C. valve	Metal seal	VQZ315	3.0	0.21	0.70	3.2	0.27	0.80	17 or less	22 or less	34 or less	77
		Rubber seal	VQZ335	4.5	0.42	1.3	4.1	0.36	1.0	25 or less	33 or less	57 or less	
	N.O. valve	Metal seal	VQZ325	2.9	0.21	0.72	2.9	0.16	0.69	17 or less	22 or less	34 or less	
		Rubber seal	VQZ345	4.4	0.45	1.2	4.5	0.38	1.2	25 or less	33 or less	57 or less	



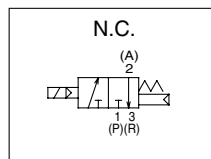
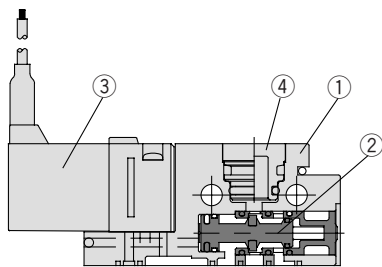
Note 1) Based on JIS B 8375-1981 (Supply pressure: 0.5 MPa; with light/surge voltage suppressor; clean air) The response time is subject to the pressure and the air quality. Response time values will change depending on pressure and air quality.

Note 2) Weight without sub-plate.

**3 Port Solenoid Valve (Valve Single Unit)**  
**Metal/Rubber Seal, Base Mounted, Plug Lead Unit Series VQZ100/200/300**

**Construction**

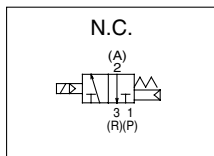
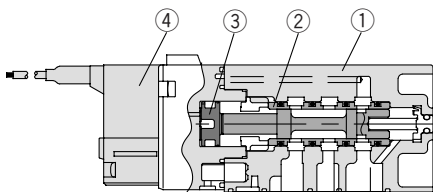
**VQZ100**  
**Poppet**



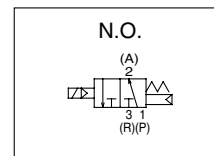
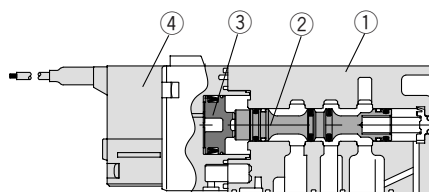
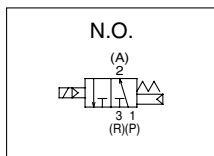
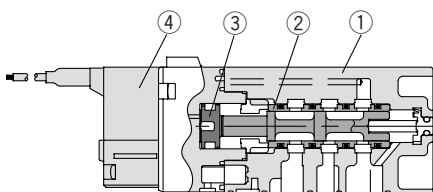
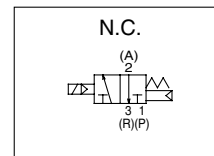
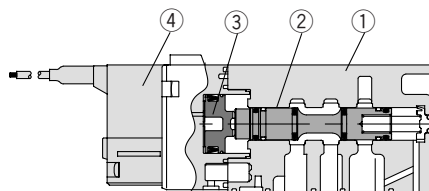
**Component Parts**

No.	Description	Material	Note
①	Body	Resin	
②	Spool valve	Aluminum/HNBR	
③	Pilot valve assembly	—	
④	Port plug	Resin/NBR	VVQZ100-CP

**VQZ200/300**  
**Metal seal type**



**Rubber seal type**



**Component Parts**

No.	Description	Material	Note
①	Body	Aluminum die-casted	
②	Spool/Sleeve	Stainless steel	Metal seal
	Spool valve	Aluminum/HNBR	Rubber seal
③	Piston	Resin	
④	Pilot valve assembly	—	



For "How to Order Pilot Valve Assembly", refer to page 4-14-41.

V100

SY

SYJ

VK

VZ

VT

VP

VG

VP

S070

VQ

VKF

**VQZ**

VZ

VS

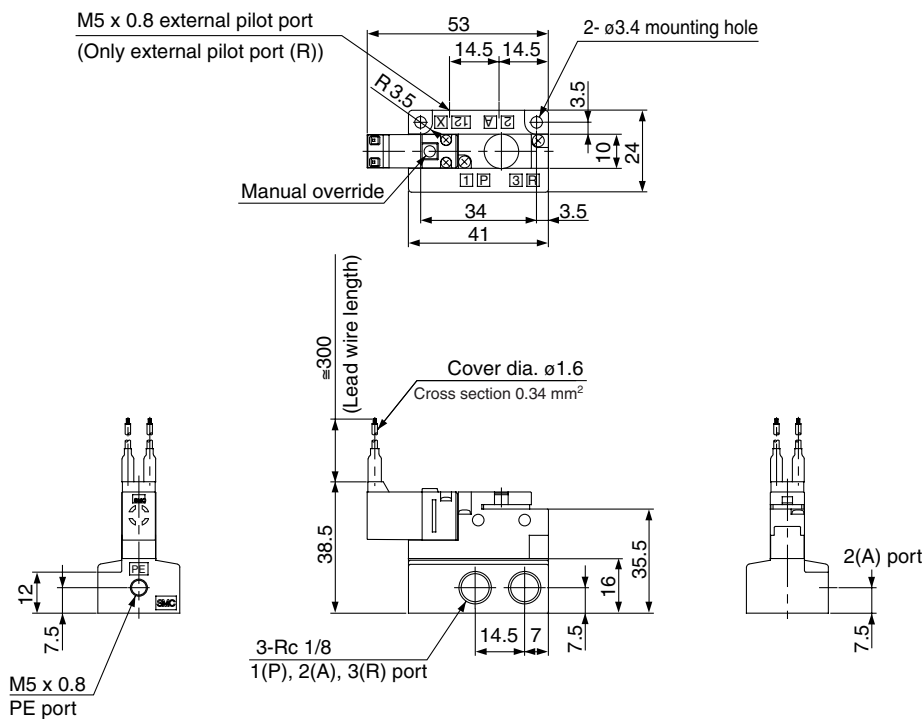
VFN

Series VQZ100/200/300

Dimensions: VQZ100

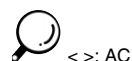
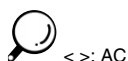
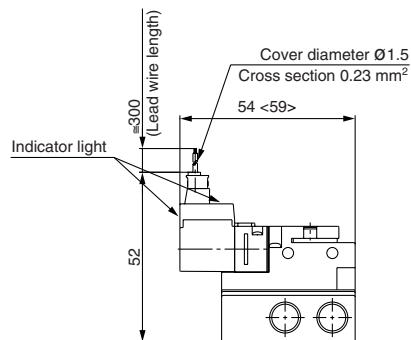
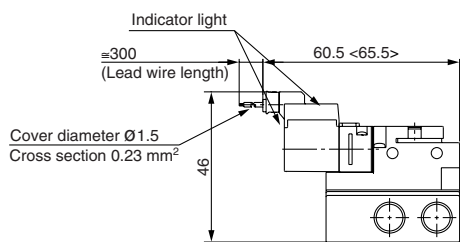
Single unit

Grommet (G): VQZ115(R)-□G□-01



L plug connector (L): VQZ115(R)-□L□-01

M plug connector (M): VQZ115(R)-□M□-01



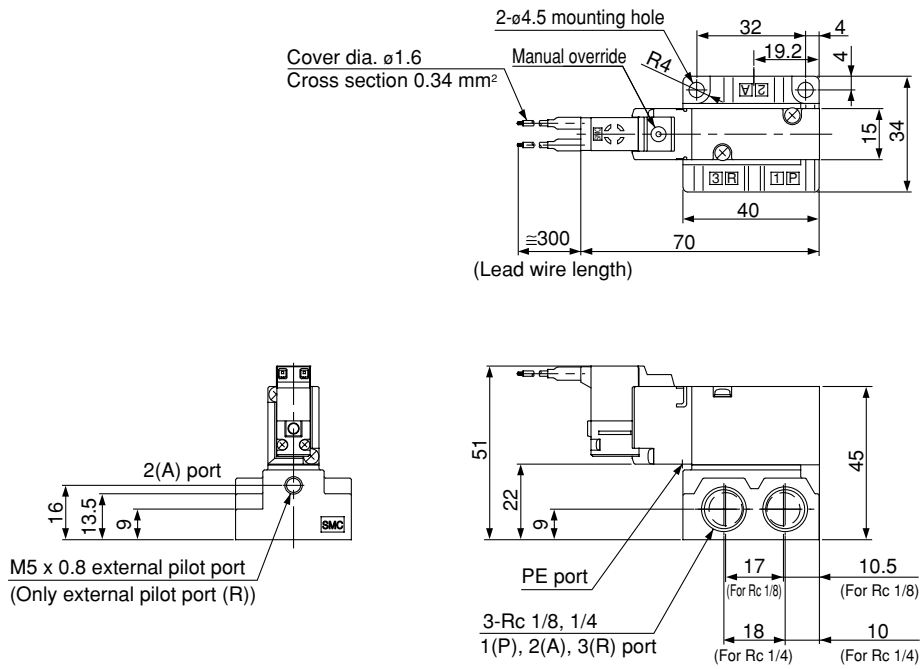


**3 Port Solenoid Valve (Valve Single Unit)**  
**Metal/Rubber Seal, Base Mounted, Plug Lead Unit Series VQZ100/200/300**

**Dimensions: VQZ200**

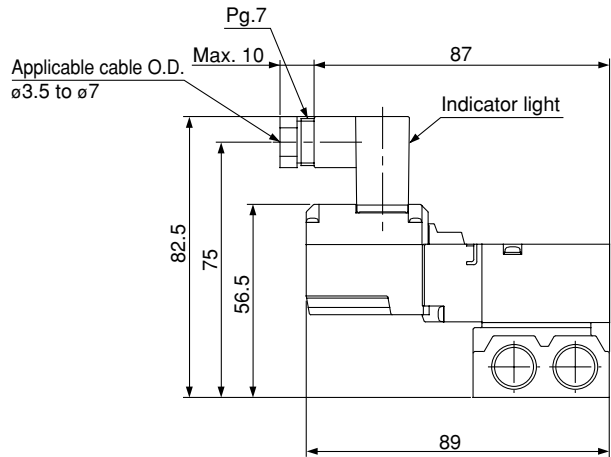
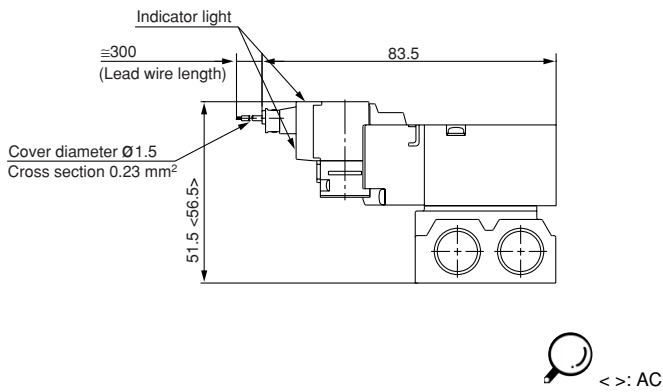
Single unit

Grommet (G): VQZ2□5(R)-□G□-<sup>01</sup><sub>02</sub>

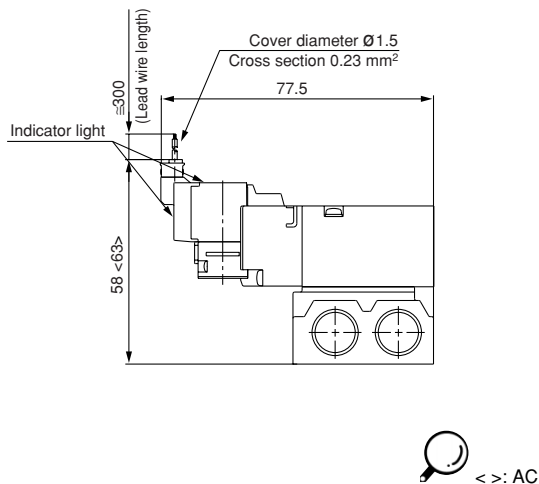


L plug connector (L): VQZ2□5(R)-□L□-<sup>01</sup><sub>02</sub>

DIN terminal (Y): VQZ2□5(R)-□Y□-<sup>01</sup><sub>02</sub>



M plug connector (M): VQZ2□5(R)-□M□-<sup>01</sup><sub>02</sub>



V100

SY

SYJ

VK

VZ

VT

VP

VG

VP

S070

VQ

VKF

**VQZ**

VZ

VS

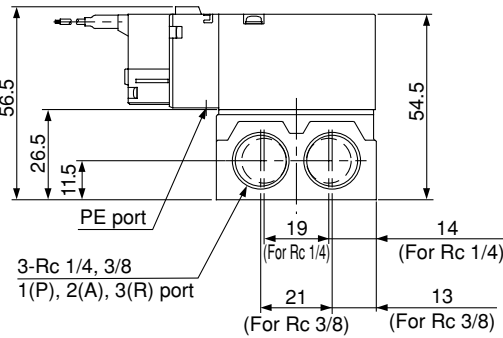
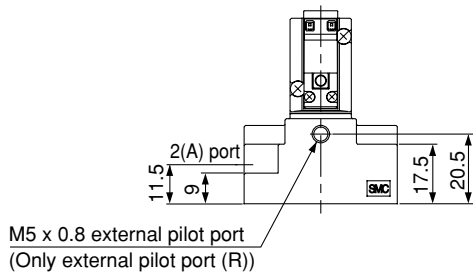
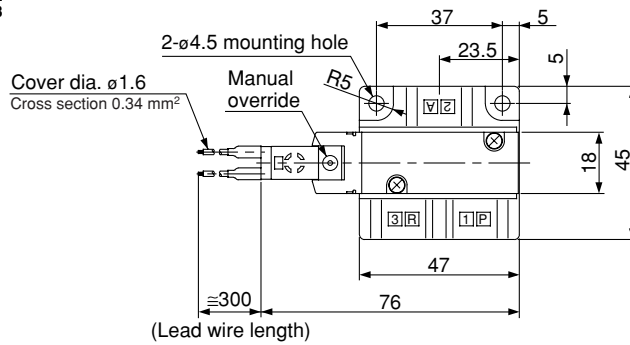
VFN

Series VQZ100/200/300

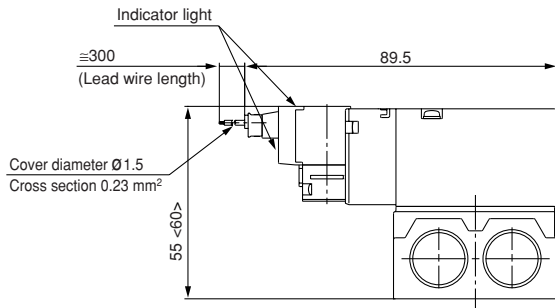
Dimensions: VQZ300

Single unit

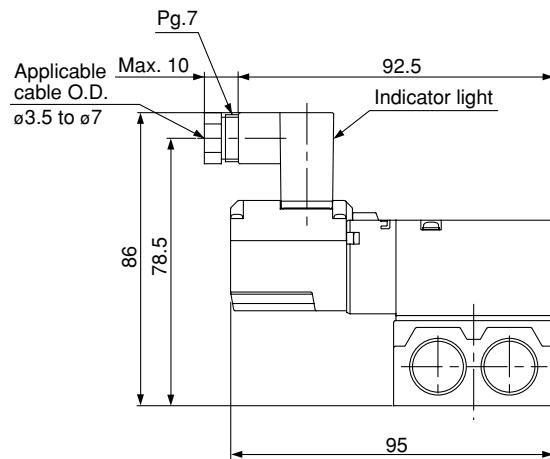
Grommet (G): VQZ3□5(R)-□G□<sup>02</sup>/<sub>03</sub>



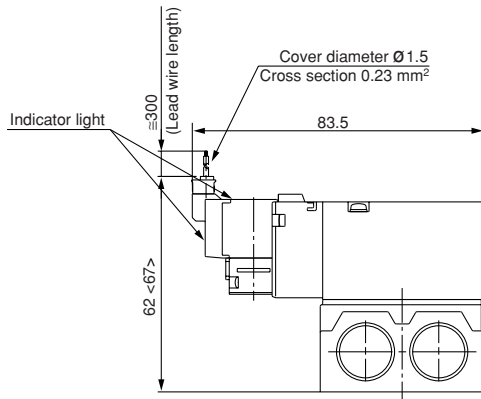
L plug connector (L): VQZ3□5(R)-□L□<sup>02</sup>/<sub>03</sub>



DIN terminal (Y): VQZ3□5(R)-□Y□<sup>02</sup>/<sub>03</sub>



M plug connector (M): VQZ3□5(R)-□M□<sup>02</sup>/<sub>03</sub>



# 3 Port Solenoid Valve

## Metal/Rubber Seal, Base Mounted, Plug Lead Unit Manifold (Connector Kit)

# Series VQZ100/200/300

### How to Order Manifold: VQZ100

VV3QZ 1 5 — 08 C6 C — D

**Series**

1	VQZ100
---	--------

**Manifold**

5	Base mounted
---	--------------

**Stations**

02	2 stations
:	:
20	20 stations

**Kit type**

C	Connector
---	-----------

**Option**

Nil	None
D	DIN rail mounting style (With DIN rail in standard length)
DO <sup>Note)</sup>	DIN rail mounting style (Without DIN rail)
R	External pilot specifications

Note) Order DIN rail separately. For the DIN rail model number, refer to page 4-14-39.

**Port size {2(A) port}**

C3	One-touch fitting for ø3.2	Side ported
C4	One-touch fitting for ø4	
C6	One-touch fitting for ø6	
M5	M5 thread (Changeable type)	Top ported
CP <sup>(1)</sup>	With port plug	
CM <sup>(2)</sup>	Mixture of port sizes	—

Note 1) When CP port plug is attached on all 2(A) port. Valve on manifold is top ported.

Note 2) Specify the mixture port (including top and side piping) on the manifold specification sheet.

Note 3) For the inch-size One-touch fittings, refer to page 4-14-40.

### How to Order Valves: VQZ100

VQZ 1 1 5 — 5 M —

**Series**

1	VQZ100 Body width 10 mm
---	-------------------------

**Type of actuation**

1	N.C. (Normally closed)
---	------------------------

**Body type**

5	Base mounted
---	--------------

**Function**

Symbol	Specifications	DC	AC
Nil	Standard type	(1.0 W) ○	○ <sup>(3)</sup>
K <sup>(1)</sup>	High pressure type (Metal seal only)	(1.0 W) ○	—
Y	Low wattage type	(0.5 W) ○	—
R <sup>(2)</sup>	External pilot type	○	○



Note 1) Option  
Note 2) For details about external pilot specifications, refer to page 4-14-40.



Note 3) For the power consumption of AC type, refer to page 4-14-28.

Note 4) When two or more symbols are specified, indicate them alphabetically.

**Port size**

CP	With port plug	Side ported
C3	One-touch fitting for ø3.2	Top ported
C4	One-touch fitting for ø4	
C6	One-touch fitting for ø6	
M5	M5 thread	—

**Manual override**

Nil	Non-locking push type (Tool required)
B	Locking type (Tool required)

**Electrical entry**

Symbol	Electrical entry	Light/Surge voltage suppressor
G	Grommet (DC specifications)	No
L	L plug connector with lead wire	Yes
LO	L plug connector without connector	
M	M plug connector with lead wire	
MO	M plug connector without connector	

Note) Standard lead wire length: 300 mm.

**Coil 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
9 <sup>Note)</sup>	Other



Note) For the special voltages, please consult with SMC.

- V100
- SY
- SYJ
- VK
- VZ
- VT
- VP
- VG
- VP
- S070
- VQ
- VKF
- VQZ
- VZ
- VS
- VFN

Series VQZ100/200/300

How to Order Manifold: VQZ200/300

**VV3QZ** **2** **5** — **08** **C6** **C** — **D**

**Series**

2	VQZ200
3	VQZ300

**Manifold**

5	Base mounted
---	--------------

**Stations**

02	2 stations
:	:
20	20 stations

**Port size {2(A) port}**

Symbol	Port size	VQZ200	VQZ300
C4	One-touch fitting for ø4	○	—
C6	One-touch fitting for ø6	○	○
C8	One-touch fitting for ø8	○	○
C10	One-touch fitting for ø10	—	○
01	Rc 1/8	○	—
02	Rc 1/4	—	○
CM <sup>(1)</sup>	Mixture of port sizes	○	○

**Kit type**

C	Connector
---	-----------

**Option**

Nil	None
D	DIN rail mounting style (With DIN rail in standard length)
DO <sup>Note)</sup>	DIN rail mounting style (Without DIN rail)
R	External pilot specifications

Note) Order DIN rail separately.  
For the DIN rail model number, refer to page 4-14-39.

Note 1) Specify port mixture/with port plug by means of the manifold specification sheet. Port mixture and port plug are available only for One-touch fitting type.

Note 2) For the inch-size One-touch fittings, refer to page 4-14-40.

How to Order Valves: VQZ200/300

**VQZ** **2** **1** **5** — **5** **M** —

**Series**

2	VQZ200 Body width 15 mm
3	VQZ300 Body width 18 mm

**Type of actuation**

1	N.C., Metal seal
2	N.O., Metal seal
3	N.C., Rubber seal
4	N.O., Rubber seal

**Body type**

5	Base mounted
---	--------------

**Function**

Symbol	Specifications	DC	AC
Nil	Standard type	(1.0 W) ○	○ <sup>(3)</sup>
K <sup>(1)</sup>	High pressure type (Metal seal only)	(1.0 W) ○	—
Y	Low wattage type	(0.5 W) ○	—
R <sup>(2)</sup>	External pilot type	○	○

Note 1) Option  
Note 2) For details about external pilot specifications, refer to page 4-14-40.  
Note 3) For the power consumption of AC type, refer to page 4-14-28.  
Note 4) When two or more symbols are specified, indicate them alphabetically.

**Manual override**

Nil	Non-locking push type (Tool required)
B	Locking type (Tool required)

**Electrical entry**

Symbol	Electrical entry	Light/Surge voltage suppressor
G	Grommet (DC specifications)	No
L	L plug connector with lead wire	Yes
LO	L plug connector without connector	
M	M plug connector with lead wire	
MO	M plug connector without connector	No
Y	DIN terminal	
YO	DIN terminal without connector	
YZ	DIN terminal	
YS	DIN terminal	Yes (W/o indicator light)
YOS	DIN terminal without connector	Yes (W/o indicator light)

Note) Standard lead wire length: 300 mm.

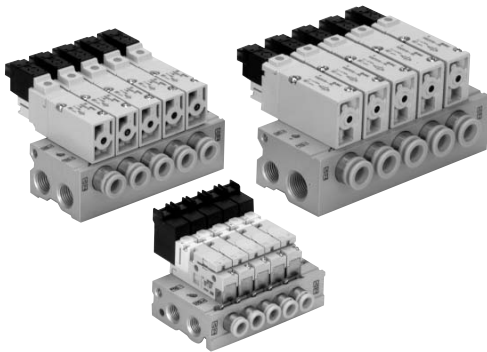
**Coil voltage**

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
9 <sup>Note)</sup>	Other

Note) For the special voltages, please consult with SMC.

**3 Port Solenoid Valve (Manifold: Connector Kit)**  
**Metal/Rubber Seal, Base Mounted, Plug Lead Unit Series VQZ100/200/300**

**Manifold Specifications**



Series	Base model	Porting specifications			Applicable valve model	Applicable stations	Manifold base weight (g)
		Port location	Port size				
			1(P), 3(R)	2(A)			
VQZ100	VV3QZ15-□□□	Side Top	Rc 1/8	C3 (For ø3.2) C4 (For ø4) C6 (For ø6) M5 (M5 thread)	VQZ115	2 to 20 stations	2 stations: 83 Addition per/station: 19
VQZ200	VV3QZ25-□□□	Side	Rc 1/4	C4 (For ø4) C6 (For ø6) C8 (For ø8) Rc 1/8	VQZ2□5	2 to 20 stations	2 stations: 126 Addition per/station: 38
VQZ300	VV3QZ35-□□□	Side	1(P) port Rc 3/8 3(R) port Rc 1/4	C6 (For ø6) C8 (For ø8) C10 (For ø10) Rc 1/4	VQZ3□5	2 to 20 stations	2 stations: 209 Addition per/station: 60

Note) Threaded port.

**How to Order Valve Manifold Assembly (Example)**

VV3QZ25-05C6C..... 1 set (C kit 5 stations manifold base)  
 \*VVQZ200-10A-5..... 1 set (Blanking plate assembly)  
 \*VQZ215-5L..... 4 sets (N.C. type part no.)

→ The asterisk denotes the symbol for assembly. Prefix it to the part nos. of the solenoid valve, etc.  
 → Enter in order starting from the first station on the D side.

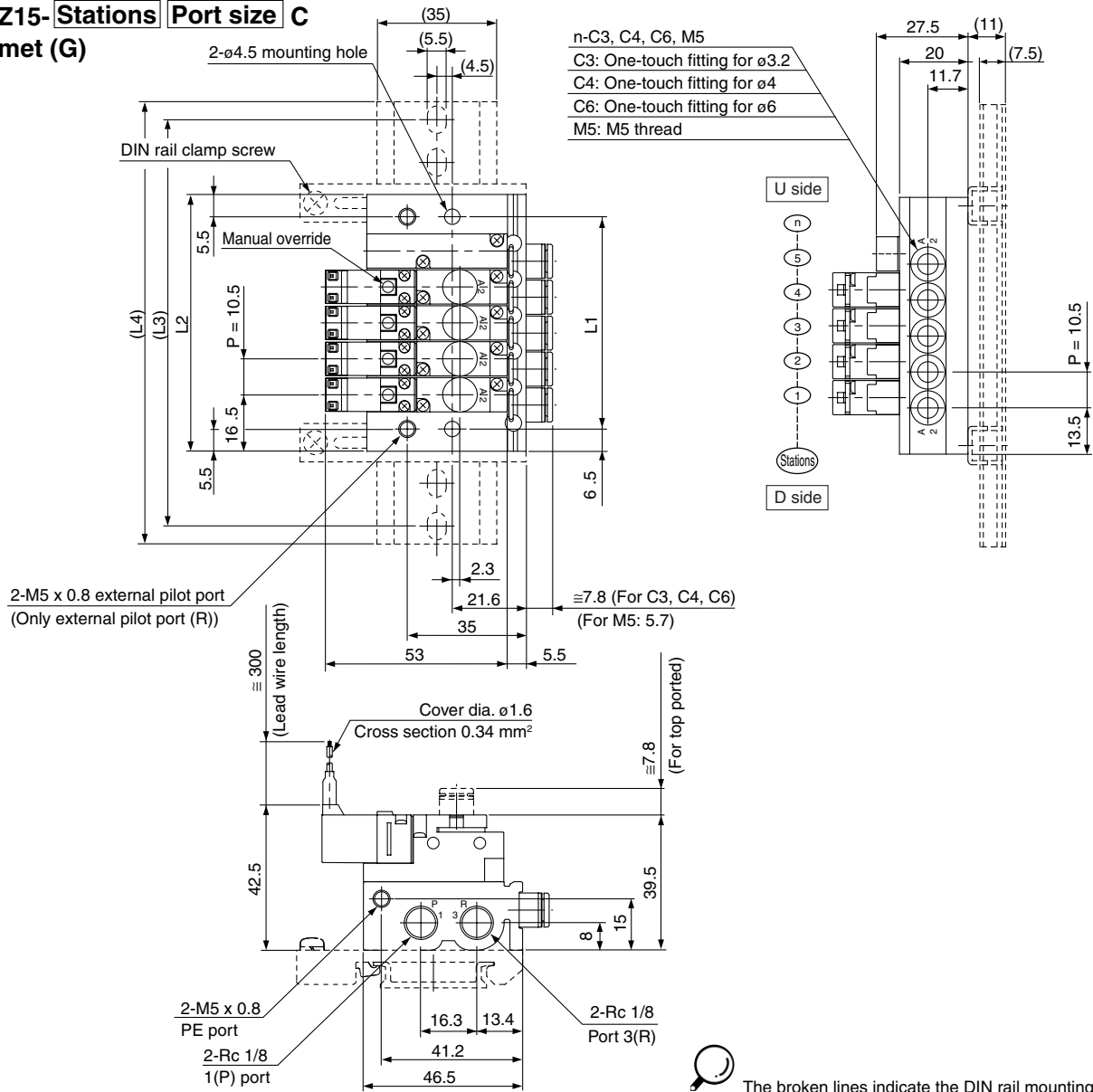
Specify the part numbers for valves and options together beneath the manifold base part number.  
 When entry of part numbers becomes complicated, indicate on the manifold specification sheet.

- V100
- SY
- SYJ
- VK
- VZ
- VT
- VP
- VG
- VP
- S070
- VQ
- VKF
- VQZ
- VZ
- VS
- VFN

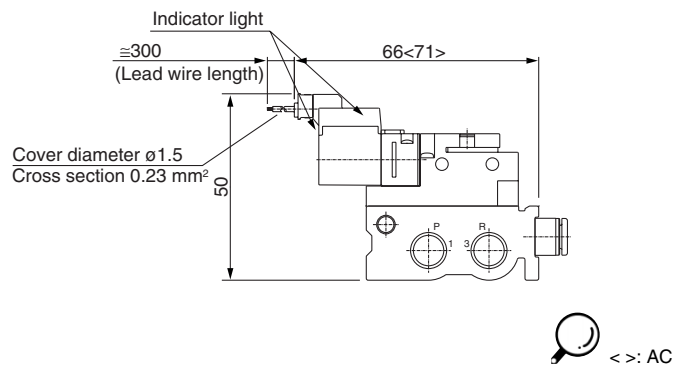
Series VQZ100/200/300

Dimensions: VQZ100

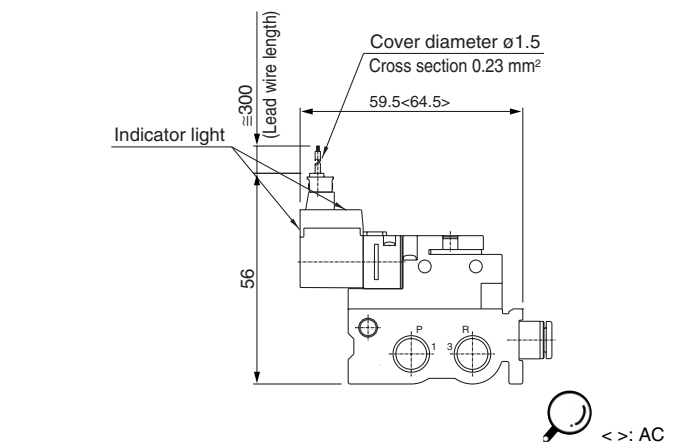
VV3QZ15- Stations Port size C Grommet (G)



L plug connector (L)



M plug connector (M)



Dimensions

Formula L1 = 10.5n + 9.5 L2 = 10.5n + 22.5 n: Stations (Maximum 20 stations)

L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	30.5	41	51.5	62	72.5	83	93.5	104	114.5	125	135.5	146	156.5	167	177.5	188	198.5	209	219.5
L2	43.5	54	64.5	75	85.5	96	106.5	117	127.5	138	148.5	159	169.5	180	190.5	201	211.5	222	232.5
L3	75	75	87.5	100	112.5	125	137.5	137.5	150	162.5	175	187.5	200	200	212.5	225	237.5	250	262.5
L4	85.5	85.5	98	110.5	123	135.5	148	148	160.5	173	185.5	198	210.5	210.5	223	235.5	248	260.5	273

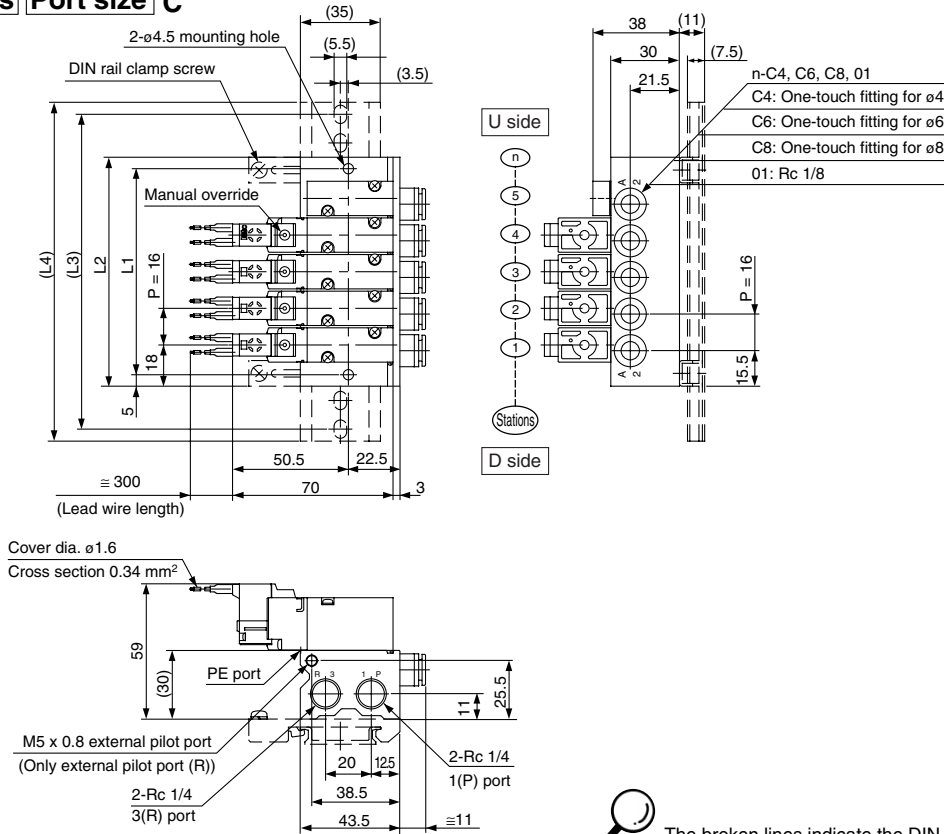


# 3 Port Solenoid Valve (Manifold: Connector Kit) Metal/Rubber Seal, Base Mounted, Plug Lead Unit Series VQZ100/200/300

## Dimensions: VQZ200

### VV3QZ25- Stations Port size C

#### Grommet (G)



V100

SY

SYJ

VK

VZ

VT

VP

VG

VP

S070

VQ

VKF

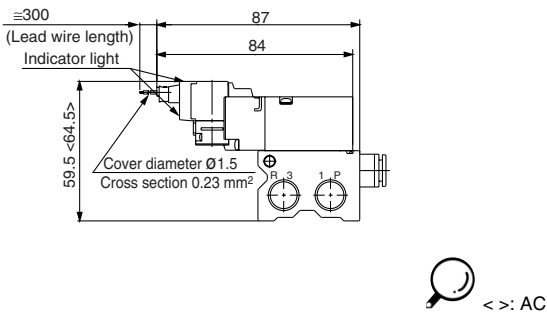
VQZ

VZ

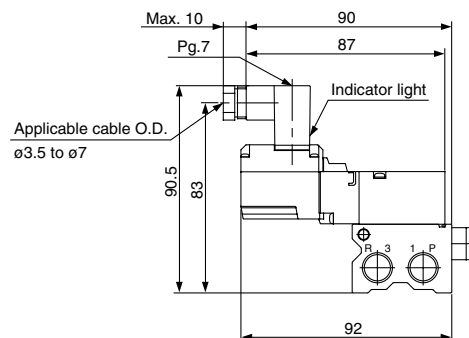
VS

VFN

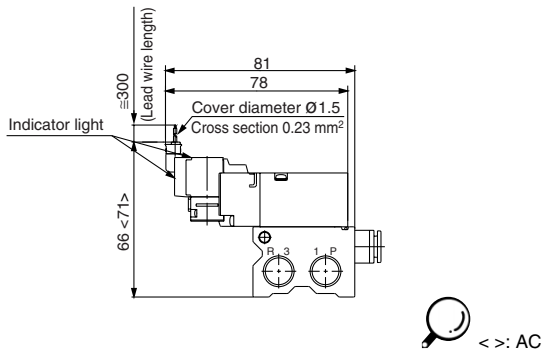
#### L plug connector (L)



#### DIN terminal (Y)



#### M plug connector (M)



### Dimensions

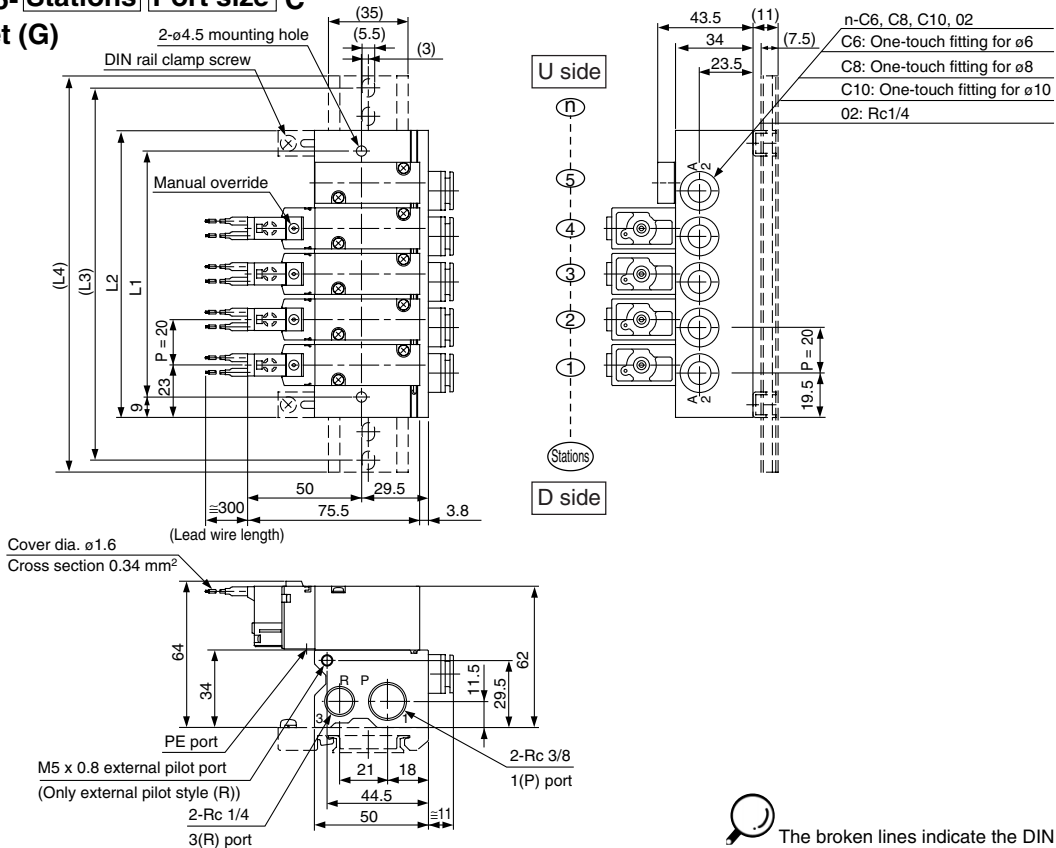
Formula L1 = 16n + 10 L2 = 16n + 20 n: Stations (Maximum 20 stations)

L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	42	58	74	90	106	122	138	154	170	186	202	218	234	250	266	282	298	314	330
L2	52	68	84	100	116	132	148	164	180	196	212	228	244	260	276	292	308	324	340
L3	75	87.5	112.5	125	137.5	162.5	175	187.5	200	225	237.5	250	275	287.5	300	312.5	337.5	350	362.5
L4	85.5	98	123	135.5	148	173	185.5	198	210.5	235.5	248	260.5	285.5	298	310.5	323	348	360.5	373

Series VQZ100/200/300

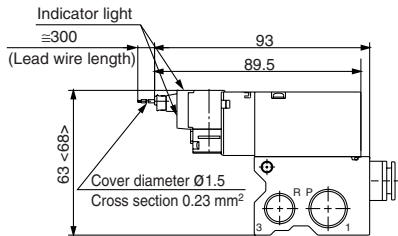
Dimensions: VQZ300

VV3QZ35- Stations Port size C  
Grommet (G)



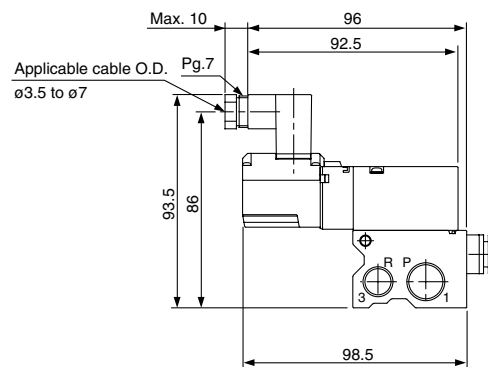
The broken lines indicate the DIN rail mounting style [-D].

L plug connector (L)

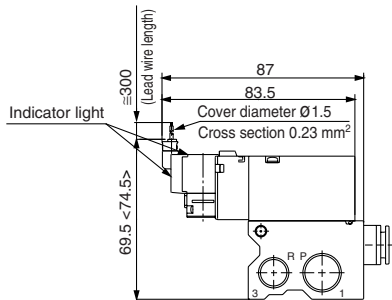


>> AC

DIN terminal (Y)



M plug connector (M)



>> AC

Dimensions

Formula L1 = 20n + 8 L2 = 20n + 26 n: Stations (Maximum 20 stations)

L \ n	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L1	48	68	88	108	128	148	168	188	208	228	248	268	288	308	328	348	368	388	408
L2	66	86	106	126	146	166	186	206	226	246	266	286	306	326	346	366	386	406	426
L3	87.5	112.5	137.5	150	175	187.5	212.5	237.5	250	275	287.5	312.5	337.5	350	375	387.5	412.5	437.5	450
L4	98	123	148	160.5	185.5	198	223	248	260.5	285.5	298	323	348	360.5	385.5	398	423	448	460.5

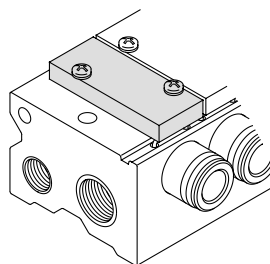
# 3 Port Solenoid Valve (Manifold: Connector Kit) Metal/Rubber Seal, Base Mounted, Plug Lead Unit Series VQZ100/200/300

## Manifold Option

### Blanking plate

- VVQZ100-10A-5 (For VQZ100)
- VVQZ200-10A-5 (For VQZ200)
- VVQZ300-10A-5 (For VQZ300)

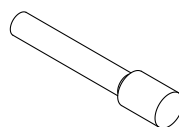
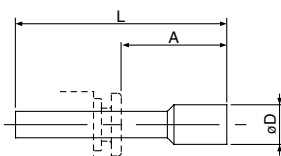
It is used by attaching on the manifold block for being prepared for removing a valve for maintenance reasons or planning to mount a spare valve, etc.



### Blanking plug

- KQP-23-X19
- KQP-04-X19
- KQP-06-X19
- KQP-08-X19
- KQP-10-X19

● Color: White



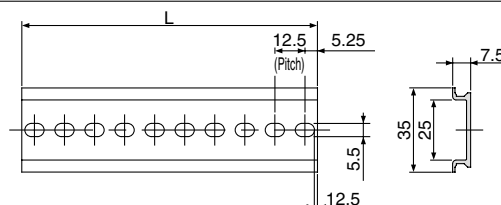
### Dimensions

Applicable fittings fitting ød	Model	A	L	D
3.2	KQP-23-X19	16	31.5	3.2
4	KQP-04-X19	16	32	6
6	KQP-06-X19	18	35	8
8	KQP-08-X19	20.5	39	10
10	KQP-10-X19	22	43	12

### DIN rail

#### AXT100-DR-□

\* As for □, enter the number from the DIN rail dimensions table.



### L Dimension

No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L dimension	23	35.5	48	60.5	73	85.5	98	110.5	123	135.5	148	160.5	173	185.5	198	210.5	223	235.5	248	260.5

L = 12.5n + 10.5

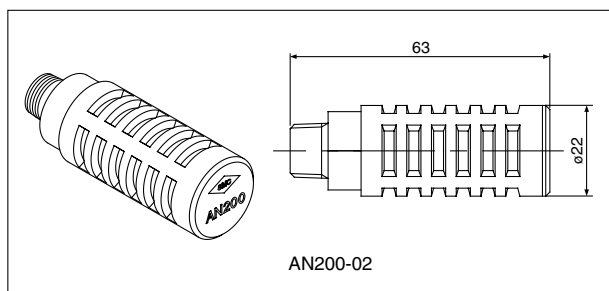
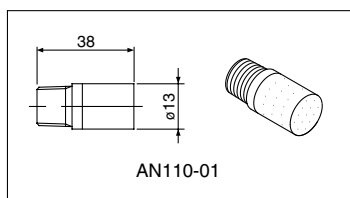
No.	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
L dimension	273	285.5	298	310.5	323	335.5	348	360.5	373	385.5	398	410.5	423	435.5	448	460.5	473	485.5	498	510.5

Each manifold can be mounted on a DIN rail. Order it by indicating an option symbol for DIN rail mounting style, -D. In this case, a DIN rail which is approx. 30 mm longer than the manifold with the specified number of stations is attached.

### Silencer

#### (For manifold EXH port)

Silencer is installed in the EXH port.



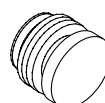
### Dimensions

Model	Silencer part no.
VQZ100	AN110-01
VQZ200	AN200-02
VQZ300	AN200-02

### Port plug

#### VVQZ100-CP (For VQZ100)

This is used when changing piping location. (Side or Top)



V100

SY

SYJ

VK

VZ

VT

VP

VG

VP

S070

VQ

VKF

VQZ

VZ

VS

VFN

# Series VQZ Base Mounted Option

## External Pilot Specifications

External pilot specifications are used when the operating pressure is below the minimum operating pressure 0.1 to 0.15 MPa or when valve is used for a vacuum application.

Order a valve by adding the external pilot specifications [R] to the part number.

### How to order valves

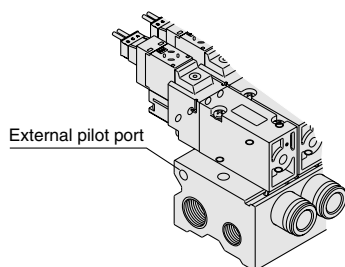
**VQZ215R—5M—02**

External pilot specifications

### How to order manifold

**VV3QZ25—06C6C—R**

External pilot specifications



## Pressure Specifications

Series		VQZ100 <sup>(2)</sup>	VQZ200/300
External pilot pressure range <sup>(1)</sup>	Metal seal	—	0.1 to 0.7 MPa
	Rubber seal (VQZ100: Poppet)	0.2 to 0.7 MPa	0.15 to 0.7 MPa
Operating pressure range <sup>(1)</sup>		-100 kPa to 0.7 MPa	

Note 1) For the high pressure type, the upper limit of max. operating pressure and external pressure range is 1 MPa.

Note 2) If VQZ100 is applied in vacuum, vacuum from 1(P) port. When finishing the vacuum application, supply pressure from 3(R) port. Ensure the burst pressure is set to be less than half of the external pilot pressure.

## Inch-size One-touch Fittings and Option Threads

Inch-size One-touch fittings and NPT/NPTF/G threads are available.

### How to order manifold

**VV3QZ15—08 N7 T C**

Thread type  
(Cylinder port and  
1(P), 3(R) port)

Nil	Rc
N	NPT
T	NPTF
F	G

Cylinder port

Symbol	N1	N3	N7	N9	N11	NM <sup>(1)</sup>	M5	01	02
Applicable tubing O.D.	ø1/8"	ø5/32"	ø1/4"	ø5/16"	ø3/8"	Mixed	M5 threads	1/8 thread	1/4 thread
Cylinder port	VQZ100	●	●	●	—	—	●	●	—
	VQZ200	—	●	●	●	—	●	—	●
	VQZ300	—	—	●	●	●	●	—	●



Note 1) Mixing One-touch fittings and thread types is impossible except for VQZ100.

Note 2) Metric sizes of One-touch fittings (C□) are also available.

## International Thread Standards Other than Rc

Rc specifications are standard for all ports, however, NPT, NPTF and G are available for international markets. Add the appropriate symbol following the port size in the standard part number.

### How to order valves

**VQZ215—5M—02 T**

Thread type  
(Cylinder port and  
1(P), 3(R) port)

Nil	Rc
N	NPT
T	NPTF
F	G

## Dusttight/Low Jetproof Type (IP65)

DIN terminal is available with dusttight/low jetproof (IP65) type.

### How to order valves

(Applicable to VQZ200/300 rubber seal with the exception of the external pilot type)

**VQZ335—5YZB W—03**

IP65 compliant

Nil	No (Standard)
W <sup>(Note)</sup>	Compliant



Note) The pilot exhaust of the IP65 valves is common with main valve exhaust. (The standard valve has an individual exhaust for the pilot valve.)

Series **VQZ** Base Mounted

# Replacement Parts

## One-touch Fitting Assembly (For cylinder port)

Fitting size	C3	C4	C6	C8	C10	M5 (VQZ100 only)
<b>VQZ100</b>	VVQ1000-50A-C3	VVQ1000-50A-C4	VVQ1000-50A-C6	—	—	VVQ1000-50A-M5
<b>VQZ200</b>	—	VVQ1000-51A-C4	VVQ1000-51A-C6	VVQ1000-51A-C8	—	—
<b>VQZ300</b>	—	—	VVQ2000-51A-C6	VVQ2000-51A-C8	VVQ2000-51A-C10	—

Note) Purchasing order is available in units of 10 pieces.

### <Plug connector assembly>

For AC

**AXT661-14A-**

For 100/110 VAC

**AXT661-31A-**

For 200/220 VAC

**AXT661-34A-**

Only connector and sockets (3 pcs.)

**AXT661-12A**

#### Lead wire length

Nil	300 mm
6	600 mm
10	1000 mm
20	2000 mm
30	3000 mm
50	5000 mm

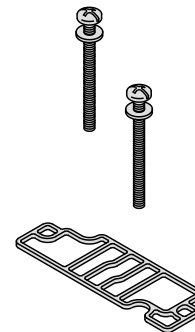
Standard wire length of valve with plug connector is 300 mm. When requiring valve with 600 mm length lead wire specify the model number of valve without plug connector and plug connector assembly.

### Gasket and Screw Assembly Part No.

	Part no.
<b>VQZ100</b>	VQZ100-GS-5
<b>VQZ200</b>	VQZ200-GS-5
<b>VQZ300</b>	VQZ300-GS-5



Note) Above part number consists of 10 units. Each unit has one gasket and two screws. Purchasing order is available in units of 10 pieces.



### <Pilot valve assembly>

**VQ11** **1** **5** **G**

#### Series

0	VQZ100
1	VQZ200/300

#### Function

Symbol	Specifications	DC	AC
Nil	Standard type	(1.0 W) ○	○
<b>K</b> <sup>(1)</sup>	High pressure type (Metal seal, VQZ100 only)	(1.0 W) ○	—
<b>Y</b>	Low wattage type	(0.5 W) ○	—



Note 1) Option

Note 2) When two or more symbols are specified, indicate them alphabetically.

#### Coil 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
9 <sup>Note)</sup>	Other



Note) For the special voltages, please consult with SMC.

#### Electrical entry

<b>G</b>	Grommet (DC specifications)
<b>L</b> <sup>(1)</sup>	L plug connector with lead wire
<b>LO</b> <sup>(1)</sup>	L plug connector without connector
<b>M</b> <sup>(1)</sup>	M plug connector with lead wire
<b>MO</b> <sup>(1)</sup>	M plug connector without connector
<b>Y</b> <sup>(2)</sup>	DIN terminal
<b>YO</b> <sup>(2)</sup>	DIN terminal without connector
<b>YZ</b> <sup>(2)</sup>	DIN terminal with light/surge voltage suppressor
<b>YS</b> <sup>(2)</sup>	DIN terminal with surge voltage suppressor
<b>YOS</b> <sup>(2)</sup>	DIN terminal with surge voltage suppressor Without connector



Note 1) "L", "LO", "M" and "MO" are attached with light and surge voltage suppressors as standard.

Note 2) DIN is applicable to VQZ200 and 300.

Note 3) Electrical entry of pilot valve for VQZ100 ("L" and "M") is the opposite side of valve body part number.

Valve model	Pilot valve model
<b>VQZ115</b> □-□ <b>L</b> □	<b>VQ110</b> □-□ <b>M</b> □
<b>VQZ115</b> □-□ <b>M</b> □	<b>VQ110</b> □-□ <b>L</b> □

### Sub-plate Part No.

Model	Sub-plate part no.
<b>VQZ100</b>	VQZ100-S-01(R) <sup>Note)</sup>
<b>VQZ200</b>	VQZ200-S- <sup>01</sup> [Rc 1/8] <sup>02</sup> [Rc 1/4]
<b>VQZ300</b>	VQZ300-S- <sup>02</sup> [Rc 1/4] <sup>03</sup> [Rc 3/8]



Note) Symbol "R" indicates an external pilot.

The part no. is common to the external pilot and internal pilot type except VQZ100.

V100

SY

SYJ

VK

VZ

VT

VP

VG

VP

S070

VQ

VKF

**VQZ**

VZ

VS

VFN