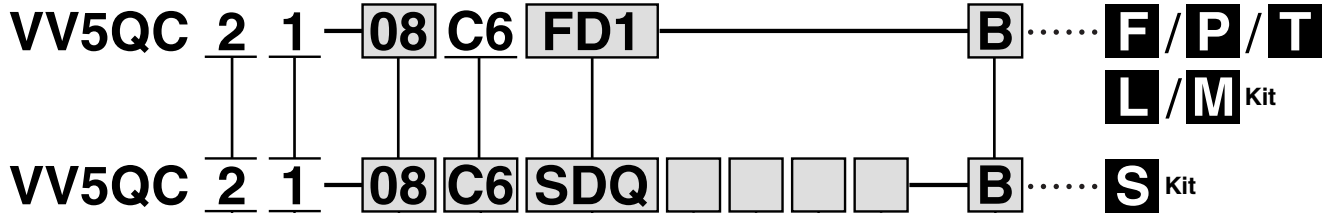


Series VQC2000 Base Mounted Plug-in Unit

How to Order Manifold



Series
2 VQC2000

Manifold model
1 Plug-in unit

Stations
01 1 station
: :
The maximum number of stations differs depending on the electrical entry.

Cylinder port size

| | |
|----|---|
| C4 | With ø4 One-touch fitting |
| C6 | With ø6 One-touch fitting |
| C8 | With ø8 One-touch fitting |
| CM | Mixed sizes and with port plug |
| L4 | Top ported elbow With ø4 One-touch fitting |
| L6 | Top ported elbow With ø6 One-touch fitting |
| L8 | Top ported elbow With ø8 One-touch fitting |
| B4 | Bottom ported elbow With ø4 One-touch fitting |
| B6 | Bottom ported elbow With ø6 One-touch fitting |
| B8 | Bottom ported elbow With ø8 One-touch fitting |
| LM | Elbow port, mixed sizes |

Note 1) Indicate the size in the specification sheet in the case of "CM" and "LM".

Note 2) Symbols for inch sizes are as follows:
<For One-touch fittings>
N3: ø5/32"
N7: ø1/4"
N9: ø5/16"
NM: Mixed
The top ported elbow is LN□ and the bottom ported elbow is BN□.

Kit designation/Electrical entry/Cable length
(Refer to page 2-2-16 for detailed information on kits.)

SI unit COM.

| SI unit COM | EX250 | | | | | EX500 | | | | EX126 |
|-------------|-----------|-------------|---------|------|---------|-----------|-------------|---------|------------|---------|
| | DeviceNet | PROFIBUS-DP | CC-LINK | AS-i | CANopen | DeviceNet | PROFIBUS-DP | CC-LINK | Remote I/O | CC-LINK |
| Nil | +COM | — | — | ○ | — | ○ | ○ | ○ | ○ | ○ |
| N | -COM | ○ | ○ | — | ○ | ○ | ○ | ○ | ○ | — |

Note) Leave the box blank for the SI unit COM without SI unit (SD0).

Number of input blocks (Fill out for I/O unit only)

| | |
|-----|-----------------------------------|
| Nil | Without SI unit/input block (SD0) |
| 0 | Without input block |
| 1 | With 1 input block |
| : | : |
| 8 | With 8 input blocks |

Option

| | |
|-----|---|
| Nil | None |
| B | All stations with back pressure check valve Note 1) |
| D | With DIN rail (Rail length: Standard) |
| D□ | With DIN rail (Rail length: Special) Note 2) |
| K | Special wiring specifications Note 3) |
| N | With name plate |
| R | External pilot Note 4) |
| S | Direct exhaust with built-in silencer Note 5) |
| T | Branched P and R ports on U side Note 6) |

* When specifying more than one option, enter symbols in alphabetical order.
Example: -BRS

Note 1) When using the back pressure check valve for the necessary stations only, enter the back pressure check valve part no. and indicate the number of manifold stations on the specification sheet.

Note 2) For special DIN rail length, indicate "D□". (Enter the number of stations inside □.)
Example: -D08
In this case, stations will be mounted on a DIN rail for 8 stations regardless of the actual number of manifold stations. The specified number of stations must be larger than the number of stations on the manifold. Indicate "-D0" for the option without DIN rail.

Note 3) Be sure to indicate the wiring specifications on the specification sheet.

Note 4) For external pilot option, "-R", indicate the external pilot specification "R" for the applicable valves as well.

Note 5) The built-in silencer type does not satisfy the IP67 standard.

Note 6) The SUP and EXH ports on U side are branched (toward the cylinder port and coil) with ø12 one-touch fittings for connection.

Input block COM. (Fill out for I/O unit only)

| | |
|-----|--|
| Nil | PNP (+) or without SI unit/input block |
| N | NPN (-) |

Input block type (Fill out for I/O unit only)

| | |
|-----|-----------------------|
| Nil | Without input block |
| 1 | M12, 2 inputs |
| 2 | M12, 4 inputs |
| 3 | M8, 4 inputs (3 pins) |

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

How to Order Valves

VQC 2 1 0 0 5

Series
2 VQC2000

Type of actuation

| | | | |
|---|---|----------------------------------|---|
| 1 | 2 position single (A)(B) 4 2 5 1 3 (R1)(P)(R2) | A Note) | 4 position dual 3 port valve (A) (A) (B) 4 4 2 5 1 3 (R1) 1 (R2) N.C (P) N.C |
| | 2 position double (metal) (A)(B) 4 2 5 1 3 (R1)(P)(R2) | B Note) | 4 position dual 3 port valve (B) (A) (B) 4 4 2 5 1 3 (R1) 1 (R2) N.O (P) N.O |
| 2 | 2 position double (rubber) (A)(B) 4 2 5 1 3 (R1)(P)(R2) | C Note) | 4 position dual 3 port valve (C) (A) (B) 4 4 2 5 1 3 (R1) 1 (R2) N.C (P) N.O |
| | 3 position closed center (A)(B) 4 2 5 1 3 (R1)(P)(R2) | Note) For rubber seal type only. | |
| 3 | 3 position exhaust center (A)(B) 4 2 5 1 3 (R1)(P)(R2) | | |
| 4 | 3 position pressure center (A)(B) 4 2 5 1 3 (R1)(P)(R2) | | |
| 5 | | | |

Manual override

Nil: Non-locking push type (Slotted)
B: Locking type (Slotted)
C: Locking type (Manual)
D: Slide locking type (Manual)

Light/Surge voltage suppressor

| | |
|-----|---------------|
| Nil | With |
| E | Without Note) |

Note) Not applicable to S kit.

Coil voltage

| | |
|---|--------------|
| 5 | 24 VDC Note) |
| 6 | 12 VDC |

Note) S kit is only available for 24 VDC.

Function

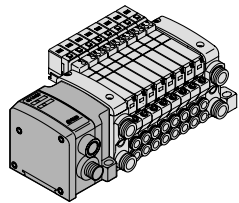
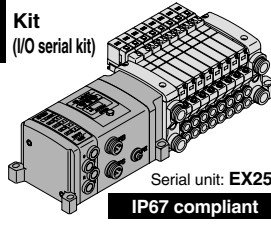
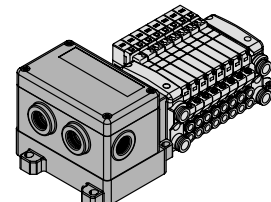
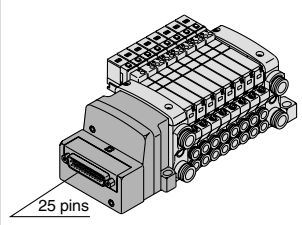
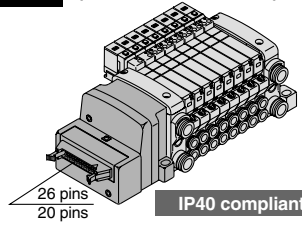
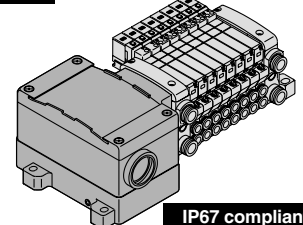
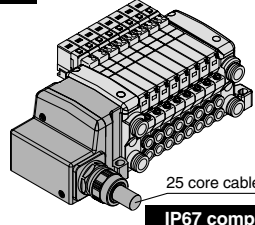
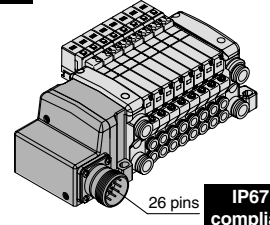
| | |
|-----------|------------------------------|
| Nil | Standard type (1 W) |
| K Note 1) | High pressure type (1.0 MPa) |
| N | Negative COM |
| R Note 2) | External pilot |
| Y | Low wattage type (0.5 W) |

* When specifying more than one option, enter symbols in alphabetical order.
Note 1) For metal seal type only.
Note 2) Not applicable for dual 3 port valve.

Seal type

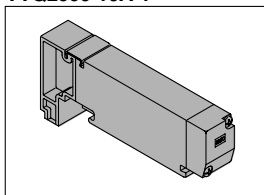
| | |
|---|-------------|
| 0 | Metal seal |
| 1 | Rubber seal |

Kit Designation/Electrical Entry/Cable Length

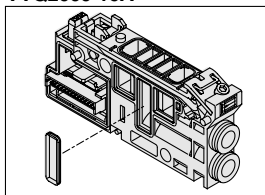
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|--|--|---|--|------|--|--------------------------------|------|--|--|--|--|----------------------------|-----|---|-------------------------------|--|-----|--------------------------|--------------------------------|--|----------------------------|---|--------------------------------|------------------------|---|------|--|---|------|--|------------------------------|--|--|------------------------------|---|--|------------------------------|--|------|------------------------|---|---|-----|---|--|-----|--|--------------------------------|-----|--|--|-----|--|--|
| <p>S Kit (Decentralized wiring type serial kit)</p>  <p>Serial unit: EX500 IP67 compliant</p> <p>Note) A separate gateway unit and communication cable are required.</p> <table border="1"> <tr> <td>SD0</td> <td>Serial kit without SI unit</td> <td></td> </tr> <tr> <td>SDA1</td> <td>Serial kit for Remote I/O</td> <td>1 to 8 stations (16 stations)</td> </tr> <tr> <td>SDA2</td> <td>Serial kit for DeviceNet/PROFIBUS-DP/CC-LINK</td> <td></td> </tr> </table> | SD0 | Serial kit without SI unit | | SDA1 | Serial kit for Remote I/O | 1 to 8 stations (16 stations) | SDA2 | Serial kit for DeviceNet/PROFIBUS-DP/CC-LINK | | <p>S Kit (I/O serial kit)</p>  <p>Serial unit: EX250 IP67 compliant</p> <table border="1"> <tr> <td>SD0</td> <td>Serial kit without SI unit</td> <td></td> </tr> <tr> <td>SDY</td> <td>Serial kit for CANopen</td> <td></td> </tr> <tr> <td>SDQ</td> <td>Serial kit for DeviceNet</td> <td>1 to 12 stations (24 stations)</td> </tr> <tr> <td>SDN</td> <td>Serial kit for PROFIBUS-DP</td> <td></td> </tr> <tr> <td>SDV</td> <td>Serial kit for CC-LINK</td> <td></td> </tr> <tr> <td>SDTA</td> <td>AS-4, 8 in/out, 31 slave modes, 2 power supply systems</td> <td>1 to 4 stations (8 stations)</td> </tr> <tr> <td>SDTB</td> <td>AS-4, 4 in/out, 31 slave modes, 2 power supply systems</td> <td>1 to 2 stations (4 stations)</td> </tr> <tr> <td>SDTC</td> <td>AS-4, 8 in/out, 31 slave modes, 1 power supply systems</td> <td>1 to 4 stations (8 stations)</td> </tr> <tr> <td>SDTD</td> <td>AS-4, 4 in/out, 31 slave modes, 1 power supply systems</td> <td>1 to 2 stations (4 stations)</td> </tr> </table> | SD0 | Serial kit without SI unit | | SDY | Serial kit for CANopen | | SDQ | Serial kit for DeviceNet | 1 to 12 stations (24 stations) | SDN | Serial kit for PROFIBUS-DP | | SDV | Serial kit for CC-LINK | | SDTA | AS-4, 8 in/out, 31 slave modes, 2 power supply systems | 1 to 4 stations (8 stations) | SDTB | AS-4, 4 in/out, 31 slave modes, 2 power supply systems | 1 to 2 stations (4 stations) | SDTC | AS-4, 8 in/out, 31 slave modes, 1 power supply systems | 1 to 4 stations (8 stations) | SDTD | AS-4, 4 in/out, 31 slave modes, 1 power supply systems | 1 to 2 stations (4 stations) | <p>S Kit (Serial output kit)</p>  <p>Serial unit: EX126 IP67 compliant</p> <table border="1"> <tr> <td>SDVB</td> <td>Serial kit for CC-LINK</td> <td>1 to 8 stations (16 stations)</td> </tr> </table> | SDVB | Serial kit for CC-LINK | 1 to 8 stations (16 stations) | <p>F Kit (D-sub connector kit)</p>  <p>25 pins</p> <p>IP40 compliant</p> <table border="1"> <tr> <td>FD0</td> <td>D-sub connector kit (25P) without cable</td> <td></td> </tr> <tr> <td>FD1</td> <td>D-sub connector kit (25P) with 1.5 m cable</td> <td>1 to 12 stations (24 stations)</td> </tr> <tr> <td>FD2</td> <td>D-sub connector kit (25P) with 3.0 m cable</td> <td></td> </tr> <tr> <td>FD3</td> <td>D-sub connector kit (25P) with 5.0 m cable</td> <td></td> </tr> </table> | FD0 | D-sub connector kit (25P) without cable | | FD1 | D-sub connector kit (25P) with 1.5 m cable | 1 to 12 stations (24 stations) | FD2 | D-sub connector kit (25P) with 3.0 m cable | | FD3 | D-sub connector kit (25P) with 5.0 m cable | |
| SD0 | Serial kit without SI unit | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SDA1 | Serial kit for Remote I/O | 1 to 8 stations (16 stations) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SDA2 | Serial kit for DeviceNet/PROFIBUS-DP/CC-LINK | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SD0 | Serial kit without SI unit | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SDY | Serial kit for CANopen | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SDQ | Serial kit for DeviceNet | 1 to 12 stations (24 stations) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SDN | Serial kit for PROFIBUS-DP | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SDV | Serial kit for CC-LINK | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SDTA | AS-4, 8 in/out, 31 slave modes, 2 power supply systems | 1 to 4 stations (8 stations) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SDTB | AS-4, 4 in/out, 31 slave modes, 2 power supply systems | 1 to 2 stations (4 stations) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SDTC | AS-4, 8 in/out, 31 slave modes, 1 power supply systems | 1 to 4 stations (8 stations) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SDTD | AS-4, 4 in/out, 31 slave modes, 1 power supply systems | 1 to 2 stations (4 stations) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SDVB | Serial kit for CC-LINK | 1 to 8 stations (16 stations) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FD0 | D-sub connector kit (25P) without cable | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FD1 | D-sub connector kit (25P) with 1.5 m cable | 1 to 12 stations (24 stations) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FD2 | D-sub connector kit (25P) with 3.0 m cable | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| FD3 | D-sub connector kit (25P) with 5.0 m cable | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>P Kit (Flat ribbon cable kit)</p>  <p>26 pins 20 pins</p> <p>Note) For a 20P flat ribbon cable, the cable assembly must be ordered separately.</p> <table border="1"> <tr> <td>PD0</td> <td>Flat ribbon cable kit (26P) without cable</td> <td></td> </tr> <tr> <td>PD1</td> <td>Flat ribbon cable kit (26P) with 1.5 m cable</td> <td>1 to 12 stations (24 stations)</td> </tr> <tr> <td>PD2</td> <td>Flat ribbon cable kit (26P) with 3.0 m cable</td> <td></td> </tr> <tr> <td>PD3</td> <td>Flat ribbon cable kit (26P) with 5.0 m cable</td> <td></td> </tr> <tr> <td>PDC</td> <td>Flat ribbon cable kit (20P) without cable</td> <td>1 to 9 stations (18 stations)</td> </tr> </table> | PD0 | Flat ribbon cable kit (26P) without cable | | PD1 | Flat ribbon cable kit (26P) with 1.5 m cable | 1 to 12 stations (24 stations) | PD2 | Flat ribbon cable kit (26P) with 3.0 m cable | | PD3 | Flat ribbon cable kit (26P) with 5.0 m cable | | PDC | Flat ribbon cable kit (20P) without cable | 1 to 9 stations (18 stations) | <p>T Kit (Terminal block box kit)</p>  <p>IP67 compliant</p> <table border="1"> <tr> <td>TD0</td> <td>Terminal block box kit</td> <td>1 to 10 stations (20 stations)</td> </tr> </table> | TD0 | Terminal block box kit | 1 to 10 stations (20 stations) | <p>L Kit (Lead wire kit)</p>  <p>25 core cable</p> <p>IP67 compliant</p> <table border="1"> <tr> <td>LD0</td> <td>Lead wire kit (25 core) 0.6 m lead wire</td> <td>1 to 12 stations (24 stations)</td> </tr> <tr> <td>LD1</td> <td>Lead wire kit (25 core) 1.5 m lead wire</td> <td></td> </tr> <tr> <td>LD2</td> <td>Lead wire kit (25 core) 3.0 m lead wire</td> <td></td> </tr> </table> | LD0 | Lead wire kit (25 core) 0.6 m lead wire | 1 to 12 stations (24 stations) | LD1 | Lead wire kit (25 core) 1.5 m lead wire | | LD2 | Lead wire kit (25 core) 3.0 m lead wire | | <p>M Kit (Multiple connector kit)</p>  <p>26 pins</p> <p>IP67 compliant</p> <table border="1"> <tr> <td>MD0</td> <td>Multiple connector kit (26P) without cable</td> <td></td> </tr> <tr> <td>MD1</td> <td>Multiple connector kit (26P) with 1.5 m cable</td> <td>1 to 12 stations (24 stations)</td> </tr> <tr> <td>MD2</td> <td>Multiple connector kit (26P) with 3.0 m cable</td> <td></td> </tr> <tr> <td>MD3</td> <td>Multiple connector kit (26P) with 5.0 m cable</td> <td></td> </tr> </table> | MD0 | Multiple connector kit (26P) without cable | | MD1 | Multiple connector kit (26P) with 1.5 m cable | 1 to 12 stations (24 stations) | MD2 | Multiple connector kit (26P) with 3.0 m cable | | MD3 | Multiple connector kit (26P) with 5.0 m cable | | | | | | | | | | | | | |
| PD0 | Flat ribbon cable kit (26P) without cable | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PD1 | Flat ribbon cable kit (26P) with 1.5 m cable | 1 to 12 stations (24 stations) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PD2 | Flat ribbon cable kit (26P) with 3.0 m cable | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PD3 | Flat ribbon cable kit (26P) with 5.0 m cable | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| PDC | Flat ribbon cable kit (20P) without cable | 1 to 9 stations (18 stations) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TD0 | Terminal block box kit | 1 to 10 stations (20 stations) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| LD0 | Lead wire kit (25 core) 0.6 m lead wire | 1 to 12 stations (24 stations) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| LD1 | Lead wire kit (25 core) 1.5 m lead wire | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| LD2 | Lead wire kit (25 core) 3.0 m lead wire | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MD0 | Multiple connector kit (26P) without cable | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MD1 | Multiple connector kit (26P) with 1.5 m cable | 1 to 12 stations (24 stations) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MD2 | Multiple connector kit (26P) with 3.0 m cable | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MD3 | Multiple connector kit (26P) with 5.0 m cable | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Manifold Option

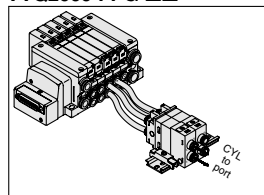
Blanking plate assembly
VVQ2000-10A-1



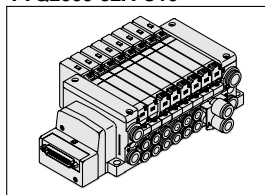
SUP block plate
VVQ2000-16A



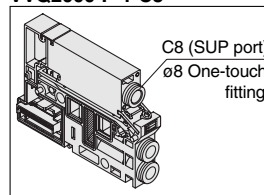
Perfect block
VVQ2000-FPG-□□



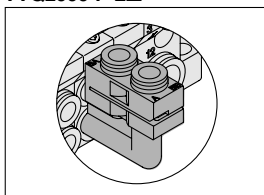
Dual flow fitting assembly
VVQ2000-52A-C10



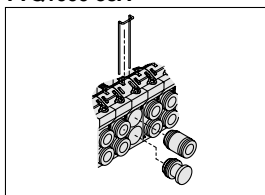
Individual SUP spacer
VVQ2000-P-1-C8



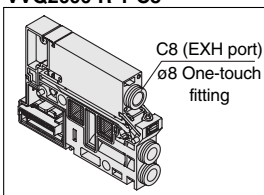
Elbow fitting assembly
VVQ2000-F-L□



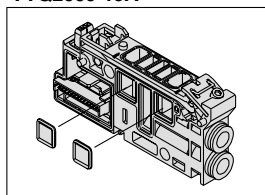
Port plug
VVQ1000-58A



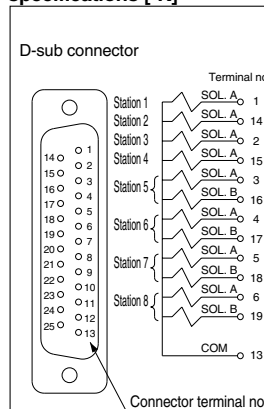
Individual EXH spacer
VVQ2000-R-1-C8



EXH block plate
VVQ2000-19A



Electrical wiring specifications [-K]



DIN rail mounting bracket [-D]
VVQ2000-57A

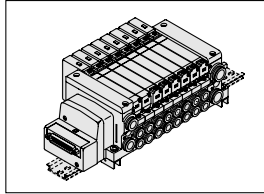
for (F, L, M, P, S (EX500) kit)

VVQ2000-57A-S

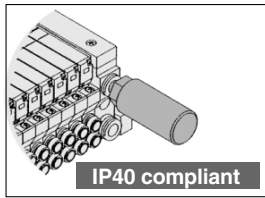
for (S (EX250) kit)

VVQ2000-57A-T

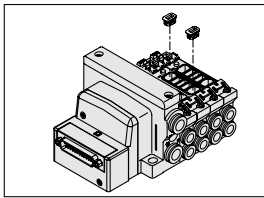
for (T, S (EX126) kit)



Silencer (for EXH port)
AN200-KM10

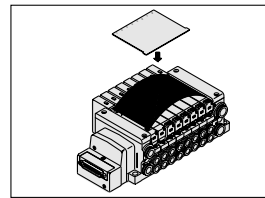


Back pressure check valve assembly [-B]
VVQ2000-18A

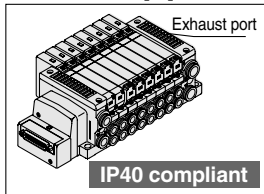


Name plate [-N]
VVQ2000-N-Stations

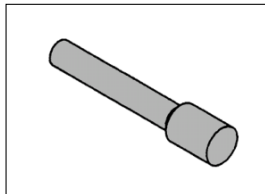
(1 to max. no. of stations)



Direct EXH outlet with built-in silencer [-S]



Blanking plug
KQ2P-□



VQC

SQ

VQ0

VQ4

VQ5

VQZ

VQD

Series VQC

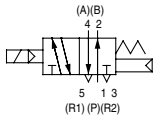
Base Mounted

Plug-in Unit

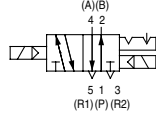


JIS Symbol

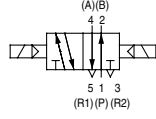
2 position single



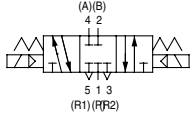
2 position double (metal)



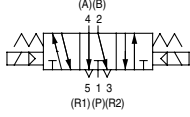
2 position double (rubber)



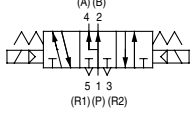
3 position closed center



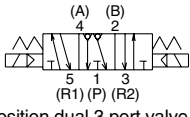
3 position exhaust center



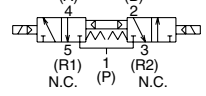
3 position pressure center



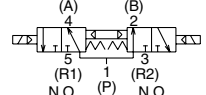
3 position exhaust center with pressure release valves



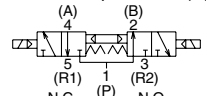
4 position dual 3 port valve (A)



4 position dual 3 port valve (B)



4 position dual 3 port valve (C)



2-2-22

Model

| Series | No. of solenoids | Model | Flow characteristics | | | | | | Response time (ms) ^{Note 2)} | | Weight (g) | |
|---------------------|--------------------|---|-----------------------------|------|----------------|-----------------------------|------------|----------------|---------------------------------------|-------------|------------|-----|
| | | | 1 → 4, 2 (P → A, B) | | | 4, 2 → 5, 3 (A, B → R1, R2) | | | Standard: 1 W | Low wattage | | |
| | | | C[dm ³ /(s·bar)] | b | C _v | C[dm ³ /(s·bar)] | b | C _v | | | | |
| VQC1000 | 2 position | Single | Metal seal VQC1100 | 0.70 | 0.15 | 0.16 | 0.72 | 0.25 | 0.18 | 12 or less | 15 or less | 64 |
| | | | Rubber seal VQC1101 | 0.85 | 0.20 | 0.21 | 1.0 | 0.30 | 0.25 | 15 or less | 20 or less | |
| | | Double | Metal seal VQC1200 | 0.70 | 0.15 | 0.16 | 0.72 | 0.25 | 0.18 | 10 or less | 13 or less | |
| | | | Rubber seal VQC1201 | 0.85 | 0.20 | 0.21 | 1.0 | 0.30 | 0.25 | 15 or less | 20 or less | |
| | 3 position | Closed center | Metal seal VQC1300 | 0.68 | 0.15 | 0.16 | 0.72 | 0.25 | 0.18 | 20 or less | 26 or less | 78 |
| | | | Rubber seal VQC1301 | 0.70 | 0.20 | 0.16 | 0.65 | 0.42 | 0.18 | 25 or less | 33 or less | |
| | | Exhaust center | Metal seal VQC1400 | 0.68 | 0.15 | 0.16 | 0.72 | 0.25 | 0.18 | 20 or less | 26 or less | |
| | | | Rubber seal VQC1401 | 0.70 | 0.20 | 0.16 | 1.0 | 0.30 | 0.25 | 25 or less | 33 or less | |
| | | Pressure center | Metal seal VQC1500 | 0.70 | 0.15 | 0.16 | 0.72 | 0.25 | 0.18 | 20 or less | 26 or less | |
| | | | Rubber seal VQC1501 | 0.85 | 0.20 | 0.21 | 0.65 | 0.42 | 0.18 | 25 or less | 33 or less | |
| 4 position | Dual 3 port valve | Rubber seal VQC1 ^A _C 01 | 0.70 | 0.20 | 0.16 | 0.70 | 0.20 | 0.16 | 25 or less | 33 or less | | |
| VQC2000 | 2 position | Single | Metal seal VQC2100 | 2.0 | 0.15 | 0.46 | 2.6 | 0.15 | 0.60 | 22 or less | 29 or less | 90 |
| | | | Rubber seal VQC2101 | 2.2 | 0.28 | 0.55 | 3.2 | 0.30 | 0.80 | 24 or less | 31 or less | |
| | | Double | Metal seal VQC2200 | 2.0 | 0.15 | 0.46 | 2.6 | 0.15 | 0.60 | 15 or less | 20 or less | |
| | | | Rubber seal VQC2201 | 2.2 | 0.28 | 0.55 | 3.2 | 0.30 | 0.80 | 20 or less | 26 or less | |
| | 3 position | Closed center | Metal seal VQC2300 | 2.0 | 0.15 | 0.46 | 2.0 | 0.18 | 0.46 | 29 or less | 38 or less | 110 |
| | | | Rubber seal VQC2301 | 2.0 | 0.28 | 0.49 | 2.2 | 0.31 | 0.60 | 34 or less | 44 or less | |
| | | Exhaust center | Metal seal VQC2400 | 2.0 | 0.15 | 0.46 | 2.6 | 0.15 | 0.60 | 29 or less | 38 or less | |
| | | | Rubber seal VQC2401 | 2.0 | 0.28 | 0.49 | 3.2 | 0.30 | 0.80 | 34 or less | 44 or less | |
| | | Pressure center | Metal seal VQC2500 | 2.4 | 0.17 | 0.57 | 2.0 | 0.18 | 0.46 | 29 or less | 38 or less | |
| | | | Rubber seal VQC2501 | 3.2 | 0.28 | 0.80 | 2.2 | 0.31 | 0.60 | 34 or less | 44 or less | |
| 4 position | Dual 3 port valve | Rubber seal VQC2 ^A _C 01 | 1.8 | 0.28 | 0.46 | 1.8 | 0.28 | 0.46 | 34 or less | 44 or less | | |
| VQC4000 | 2 position | Single | Metal seal VQC4100 | 6.2 | 0.19 | 1.5 | 6.9 | 0.17 | 1.7 | 20 or less | 22 or less | 230 |
| | | | Rubber seal VQC4101 | 7.2 | 0.43 | 2.1 | 7.3 | 0.38 | 2.0 | 25 or less | 27 or less | |
| | | Double | Metal seal VQC4200 | 6.2 | 0.19 | 1.5 | 6.9 | 0.17 | 1.7 | 12 or less | 12 or less | |
| | | | Rubber seal VQC4201 | 7.2 | 0.43 | 2.1 | 7.3 | 0.38 | 2.0 | 15 or less | 15 or less | |
| | 3 position | Closed center | Metal seal VQC4300 | 5.9 | 0.23 | 1.5 | 6.3 | 0.18 | 1.6 | 45 or less | 47 or less | 280 |
| | | | Rubber seal VQC4301 | 7.0 | 0.34 | 1.9 | 6.4 | 0.42 | 1.9 | 50 or less | 52 or less | |
| | | Exhaust center | Metal seal VQC4400 | 6.2 | 0.18 | 1.5 | 6.9 | 0.17 | 1.7 | 45 or less | 47 or less | |
| | | | Rubber seal VQC4401 | 7.0 | 0.38 | 1.9 | 7.3 | 0.38 | 2.0 | 50 or less | 52 or less | |
| | | Pressure center | Metal seal VQC4500 | 6.2 | 0.18 | 1.9 | 6.4 | 0.18 | 1.6 | 45 or less | 47 or less | |
| | | | Rubber seal VQC4501 | 7.0 | 0.38 | 1.9 | 7.1 | 0.38 | 2.0 | 50 or less | 52 or less | |
| Perfect | Metal seal VQC4600 | 2.7 | — | — | 3.7 | — | — | 55 or less | 57 or less | 500 | | |
| Rubber seal VQC4601 | 2.8 | — | — | 3.9 | — | — | 62 or less | 64 or less | | | | |



Note 1) Values represented in this column are in the following conditions:

VQC1000: Cylinder port size C6 without a back pressure check valve

VQC2000: Cylinder port size C8 without a back pressure check valve

VQC4000: Cylinder port size Rc 3/8

Note 2) Values represented in this column are based on JIS B 8375-1981 (operating with clean air and a supply pressure of 0.5 MPa. Equipped with light/surge voltage suppressor. Values vary depending on the pressure as well as the air quality.) Values for double types are when the switch is ON.

Standard Specifications

| Valve Configuration | | Metal seal | | Rubber seal | | |
|--|-------------------------------|---|----------------------------------|--|----------|--|
| | | Air/Inert gas | | | | |
| Valve specifications | VQC1000/2000 | Max. operating pressure | | 0.7 MPa (High pressure type: 1.0 MPa) ^{Note 4)} | | |
| | | Min. operating pressure | Single | 0.1 MPa | 0.15 MPa | |
| | | | Double | 0.1 MPa | | |
| | | | 3 position | 0.1 MPa | 0.2 MPa | |
| | | | 4 position | — | 0.15 MPa | |
| | VQC4000 | Max. operating pressure ^{Note 3)} | | 1.0 MPa (0.7 MPa) | | |
| | | Min. operating pressure | Single | 0.15 MPa | 0.2 MPa | |
| | | | Double | 0.15 MPa | | |
| | 3 position | 0.15 MPa | 0.2 MPa | | | |
| | Proof pressure | | 1.5 MPa | | | |
| Ambient and fluid temperature | | -10 to 50°C ^{Note 1)} | | | | |
| Lubrication | | Not required | | | | |
| Manual override | | Push type/Locking type (tool required)/Locking type (Manual override) ^{Note 5)} /Slide locking type ^{Note 5)} | | | | |
| Impact resistance/Vibration resistance | | 150/30 m/s ² ^{Note 2)} | | | | |
| Enclosure | | Dust proof (IP67 compliant) | | | | |
| Electrical specifications | Rated coil voltage | | 24 VDC | | | |
| | Allowable voltage fluctuation | | ±10% of rated voltage | | | |
| | Coil insulation type | | Equivalent to B type | | | |
| | 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) | | | |

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

Note 1) Use dry air to prevent condensation at low temperatures.
 Note 2) **Impact resistance:** No malfunction resulted from the impact test using a drop impact tester. The test was performed one time each in the axial and right angle directions of the main valve and armature, for both energized and de-energized states.
Vibration resistance: No malfunction occurred in a one-sweep test between 45 and 2000Hz. Test was performed in the axial and right angle directions of the main valve and armature for both energized and de-energized states.
 Note 3) Values in () are for the low wattage (0.5 W) specification.
 Note 4) Metal seal type only.
 Note 5) Only for VQC1000/2000.



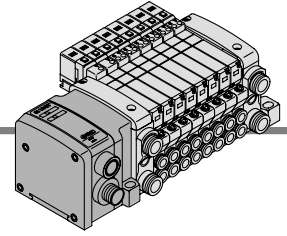
Manifold Specifications

| Series | Base model | Connection type | Piping specifications | | Applicable stations ^{Note 2)} | Applicable solenoid valves | 5 station weight (g) |
|---------|-------------|---|------------------------|--|--|----------------------------|--|
| | | | Port direction | Port size ^{Note 1)} | | | |
| VQC1000 | VV5QC11-□□□ | <ul style="list-style-type: none"> ■ F Kit: D-sub connector ■ P Kit: Flat cable ■ T Kit: Terminal block box ■ S Kit: Serial transmission ■ L Kit: Lead wire ■ M Kit: Multiple connector | Side | C8 (For ø8) Options Direct outlet with built-in silencer C3 (For ø3.2) C4 (For ø4) C6 (For ø6) M5 (M5 threads) | (F, L, M and P kits) 1 to 12 stations T kit 1 to 10 stations S kit 1 to 8 stations: EX500 1 to 12 stations: EX250 1 to 8 stations: EX126 | VQC1□00-5 VQC1□01-5 | 628 (Single) 759 (Double, 3P) |
| VQC2000 | VV5QC21-□□□ | | Side | C10 (For ø10) Options Direct outlet with built-in silencer Branch type C12 (for ø12) C4 (For ø4) C6 (For ø6) C8 (For ø8) | 1 to 8 stations: EX500 1 to 12 stations: EX250 1 to 8 stations: EX126 | VQC2□00-5 VQC2□01-5 | 1051 (Single) 1144 (Double, 3P) |
| VQC4000 | VV5QC41-□□□ | | Side Bottom | C8 (For ø8) C10 (For ø10) C12 (For ø12) Rc 1/4 Rc 3/8 Rc 1/4 | (F, L, M and P kits) 1 to 12 stations T kit 1 to 10 stations S kit 1 to 12 stations: EX240, EX250 1 to 8 stations: EX500 1 to 8 stations: EX126 | VQC4□00-5 VQC4□01-5 | 4150 • S kit (without unit) • Solenoid weight is not included. |

Note 1) One-touch fittings in inch sizes are also available.
 Note 2) An optional specification for special wiring is available to increase the maximum number of stations.

Series VQC

S VQC1000/2000/4000
Kit (Serial transmission kit) Decentralized Serial Wiring



Gateway type serial transmission system

- Since wiring is "prepackaged" into one multi-connector type cable, wiring work is not only made easier, but much more accurate.

S kit can be used by connecting to gateway unit.

Gateway (GW) Unit IP65 compliant



How to Order

EX500 — G DN1

Communication protocol

| | | | |
|-------------|-------------|---------------|------------------|
| DN1 | DeviceNet | AB1-X1 | Remote I/O (RIO) |
| PR1A | PROFIBUS-DP | MJ1 | CC-LINK |

Specifications

| Model | EX500-GAB1-X1 | EX500-GDN1 | EX500-GPR1A | EX500-GMJ1 |
|--|--|--|--|---------------------------------------|
| Applicable PLC/Communication protocol | Rockwell Automation PLC | DeviceNet Release 2.0 | PROFIBUS-DP (EN50170) | CC-LINK Ver. 1.10 |
| Communication speed | 57.6/115.2/230.4 kbit/sec | 125/250/500 kbit/sec | 9.6/19.2/45.45/93.75/187.5/500 kbit/sec 1.5/3/6/12 Mbit/sec | 156/625 kbit/sec 2.5/5/10 Mbit/sec |
| Rated voltage | 24 VDC | | | |
| Power supply voltage range | Input and control unit power supply: 24 VDC ± 10% Solenoid valve power supply: 24 VDC + 10%/–5% (with power drop warning at approx. 20 V) | | | |
| | — | Communication power supply for DeviceNet 11 to 25 VDC | — | — |
| Current consumption | 200 mA or less (Single GW unit) | | | |
| | — | Communication power supply for DeviceNet 50 mA or less | — | — |
| Number of inputs/outputs | Maximum 64 inputs/64 outputs | | | |
| Number of input/output branches | 4 branches (16 inputs/16 outputs per branch) | | | |
| Branch cable | 8 core heavy duty cable | | | |
| Branch cable length | 5 m or less (total extension 10 m or less) | | | |
| Communication connector | M12 connector (8 pins, socket) | | | |
| Power connector | M12 connector (5 pins, plug) | | | |
| Ambient operating temperature/humidity | +5 to +45°C at 35% to 85% RH (No condensation) | | | |
| Enclosure | IP65 | | | |
| Applicable standard | UL, CSA, CE | | | |
| Weight (g) | 470 | | | |

Input Block IP67 compliant

How to Order Input Manifold

EEX500 — IB1 — E 8

Input unit specifications

| Connector type | |
|----------------|------------------|
| E | M8 connector |
| T | M12 connector |
| M | M8 and M12 mixed |

| Stations | |
|----------|------------|
| 1 | 1 station |
| 8 | 8 stations |

Applicable GW unit

| | |
|------------|------------------|
| Nil | DeviceNet |
| | PROFIBUS-DP |
| -X1 | Remote I/O (RIO) |



Note) When ordering an input block manifold, enter the [Input manifold part no.] + [Input block part no.] together. The input block, end block and DIN rail are included in the input manifold.

How to Order Input Block

EX500 — IE 1

Block type

| | |
|----------|---|
| 1 | M8 connector, PNP specifications |
| 2 | M8 connector, NPN specifications |
| 3 | M12 connector, PNP specifications |
| 4 | M12 connector, NPN specifications |
| 5 | 8-point integrated type, M8 connector, PNP specifications |
| 6 | 8-point integrated type, M8 connector, NPN specifications |

Applicable GW unit

| | |
|------------|------------------|
| Nil | DeviceNet |
| | PROFIBUS-DP |
| -X1 | Remote I/O (RIO) |

* With waterproof cap

Input Unit Specifications

| | |
|---------------------------------|---|
| Connection block | Current source type input block (PNP input block) or Current sink type input block (NPN input block) |
| Communication connector | M12 connector (8 pins, plug) |
| Number of connection blocks | Maximum 8 blocks |
| Block supply voltage | 24 VDC |
| Block supply current | 0.65 A maximum |
| Current consumption | 100 mA or less (at rated voltage) |
| Short circuit protection | Operates at 1A Typ. (power supply cut) GW unit reset by turning power OFF and back ON. |
| Enclosure | IP65 |
| Weight (g) <small>Note)</small> | 100 (Input unit + end block) |

Note) Not including the DIN rail weight.

Input Block Specifications

| | |
|-----------------------|---|
| Applicable sensor | Current source type (PNP output) or Current sink type (NPN output) |
| Sensor connector | M8 connector (3 pins) or, M12 connector (4 pins) |
| Number of inputs | 2 inputs/8 inputs (M8 only) |
| Rated voltage | 24 VDC |
| Indication | Green LED |
| Insulation | None |
| Sensor supply current | Maximum 30 mA/Sensor |
| Enclosure | IP65 |
| Weight (g) | [For M8: 20] [For M12: 40] [8 point integrated type, for M8: 55] |



SI Unit

How to Order

EX500 – Q001

• Applicable GW unit

| | |
|-----|--------------------------|
| Nil | DeviceNet PROFIBUS-DP |
| -X1 | Remote I/O (RIO) |

Specifications

| | |
|-------------------------------------|--|
| Connection block | Solenoid valve (single, double) Relay output module (1 output, 2 outputs) |
| Communication connector | M12 connector (8 pins, plug, socket) |
| Number of connection block stations | Double solenoid valve Relay output module (2 points): Maximum 8 stations Single solenoid valve Relay output module (1 point): Maximum 16 stations |
| Block supply voltage | 24 VDC |
| Block supply current | 0.65 A maximum |
| Current consumption | 100 mA or less (at rated voltage) |
| Weight (g) | 115 |

VQC

SQ

VQ0

VQ4

VQ5

VQZ

VQD

Cable

How to Order Cable with M12 Connector

EX500 – AC 030 – SSPS



Cable length

| | |
|-----|-------|
| 003 | 0.3 m |
| 005 | 0.5 m |
| 010 | 1 m |
| 030 | 3 m |
| 050 | 5 m |

Connector specifications

| | |
|------|--|
| SSPS | Socket side: Straight Plug side: Straight |
| SAPA | Socket side: Angle Plug side: Angle |

How to Order Power Cable with Connector

EX500 – AP 050 – S

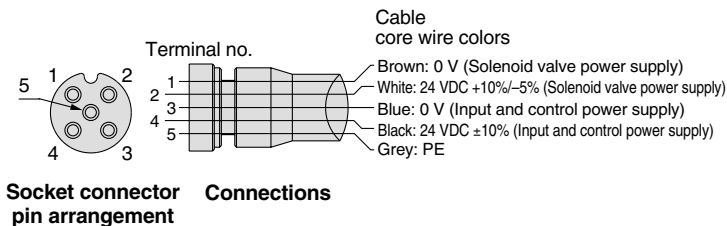
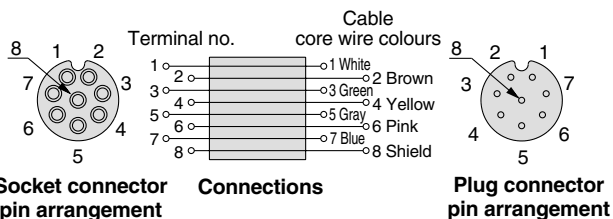


Cable length

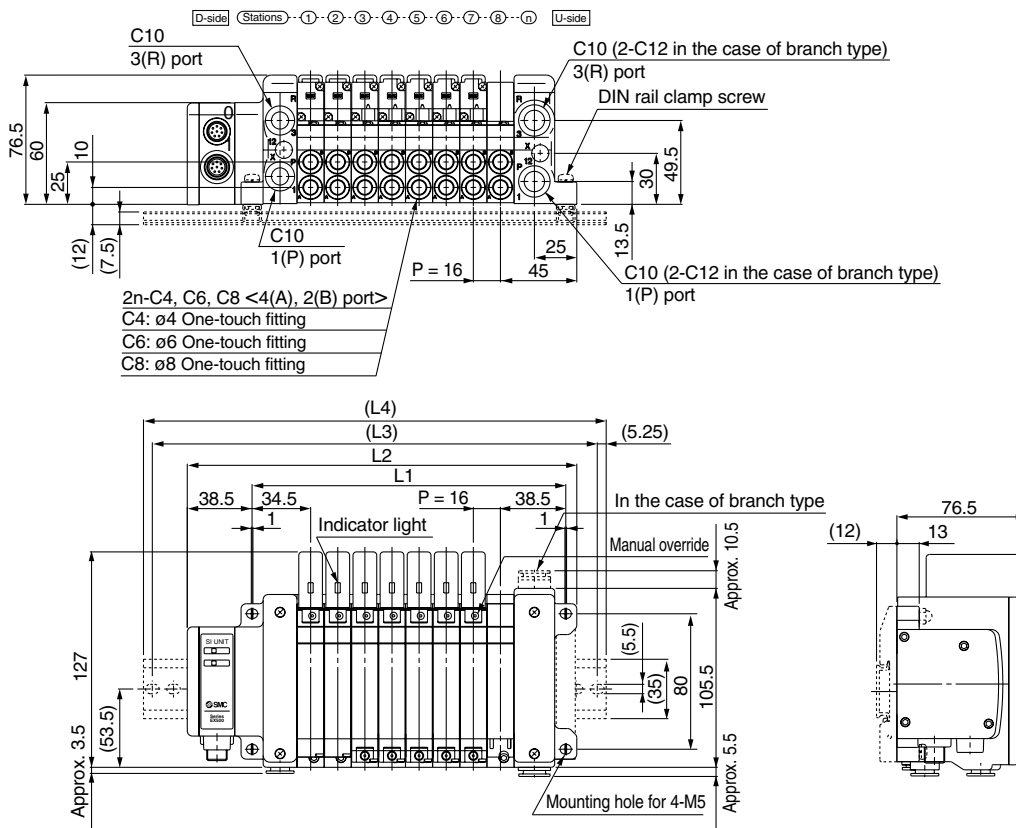
| | |
|-----|-----|
| 010 | 1 m |
| 050 | 5 m |

• Connector specifications

| | |
|---|----------|
| S | Straight |
| A | Angle |



VV5QC21
SA1 Kit
(Serial transmission kit: EX500)



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

Formulas

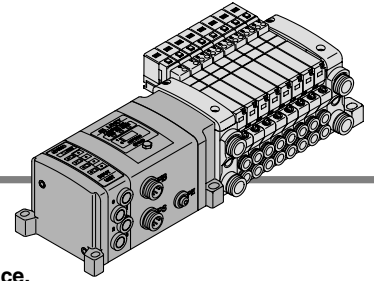
$L1 = 16n + 57$ (Maximum 16 single wiring stations)

n: Stations

| L \ n | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 73 | 89 | 105 | 121 | 137 | 153 | 169 | 185 | 201 | 217 | 233 | 249 | 265 | 281 | 297 | 313 |
| L2 | 118 | 134 | 150 | 166 | 182 | 198 | 214 | 230 | 246 | 262 | 278 | 294 | 310 | 326 | 342 | 358 |
| L3 | 137.5 | 150 | 175 | 187.5 | 200 | 212.5 | 237.5 | 250 | 262.5 | 287.5 | 300 | 312.5 | 337.5 | 350 | 362.5 | 375 |
| L4 | 148 | 160.5 | 185.5 | 198 | 210.5 | 223 | 248 | 260.5 | 273 | 298 | 310.5 | 323 | 348 | 360.5 | 373 | 385.5 |

* With signal cut block, L4 is obtained by adding approximately 30 mm to L2.

S VQC1000/2000/4000 Kit (Serial Transmission Kit) for I/O IP67 compliant



Compatible network **DeviceNet/PROFIBUS-DP/CC-Link**

• The serial transmission system greatly reduces connection work, minimizes wiring, and saves space.

SI unit for DeviceNet/PROFIBUS-DP/CC-LINK

As a DeviceNet/PROFIBUS-DP/CC-LINK slave unit, this kit is capable of up to 32 points of solenoid valve ON and OFF control. Furthermore, by connecting an input block, a maximum 32 sensor signal inputs are possible.

SI unit for AS-i

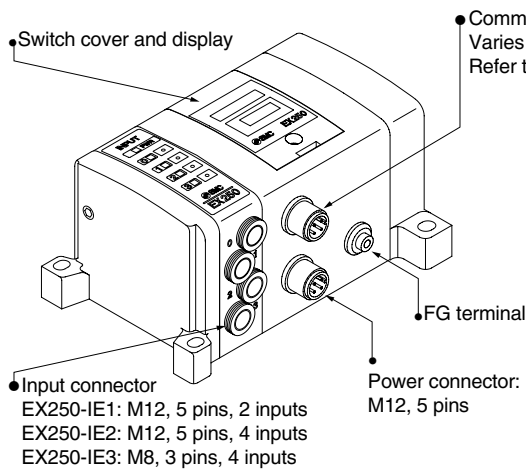
As a AS-i slave unit, this kit is capable of up to 4 or 8 points of solenoid valve ON and OFF control. Furthermore, by connecting an input block, a maximum 4 or 8 sensor signal inputs are possible.

Input block

This expansion block connects to the SI unit and allows for sensor input to the auto switches.

Each input block can receive input from up to two or four sensors, and the common can be matched to the sensor by an NPN/PNP selector switch. Input connectors are available in both M8 and M12 types.

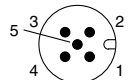
Connector Details



Communication connector

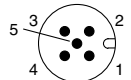
CANopen: Female connector cable: M12 female 5 pins cable with shield (according to ISO11898).

| Pos. | Description | Function |
|------|-------------|--------------------------|
| 1 | CAN_SHLD | Shield |
| 2 | CAN_V+ | Power supply + |
| 3 | CAN_GND | Power supply - |
| 4 | CAN_H | Bus line (dominant High) |
| 5 | CAN_L | Bus line (dominant Low) |



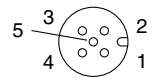
DeviceNet: M12...5 pins (Plug) Example for a cable set with plug / socket: OMRON Corporation DCA1-5CN05F1. Karl Lumberg GmbH: 0935 253 103/...M, RSC RKC 57* ... M. Accessories, bus branch Y: Karl Lumberg GmbH: 0906 UTP 101, Hans Turck GmbH: VB2-FKM-FSM57. Accessories terminating socket with resistor: Hans Turck GmbH: RSE57-TR2, Karl Lumberg GmbH: 0939 CXT 101.

| Pos. | Description | Function |
|------|-------------|------------------------|
| 1 | Drain | Drain / shield |
| 2 | V+ | Circuit power supply + |
| 3 | V- | Circuit power supply - |
| 4 | CAN_H | Signal H |
| 5 | CAN_L | Signal L |



PROFIBUS-DP: M12... 5 pins reserve-keyed (Socket). Example for the corresponding cable sets with plug / socket: Hans Turck GmbH: RSSW-RKSW456-...M; Karl Lumberg GmbH: 0975 254 101/...M. Accessories Bus branch Y: Hans Turck GmbH: VB2/FSW/FKW/FSW45. Accessories terminating resistor: Hans Turck GmbH: RSS4.5-PDP-TR; Karl Lumberg GmbH: 0979PTX101

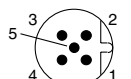
| Pos. | Description | Function |
|------|-------------|---------------------------------------|
| 1 | VP | Power supply for terminating resistor |
| 2 | A-N | Negative for data transfer/reception |
| 3 | DGND | Ground for terminating resistor |
| 4 | B-P | Positive for data transfer/reception |
| 5 | SHIELD | Shield |



Power supply

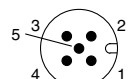
DeviceNet: M12 ... 5 pins reserve-keyed (Plug)
(The configuration of the connection surface area differs from that of the transmission plug)
Example of the cable set with socket: Hans Turck GmbH: WAKW4.5T-2, Franz Binder GmbH: 79-4449-...05.

| Pos. | Description | Function |
|------|-------------|---------------------------|
| 1 | SV24V | +24 V solenoid valve |
| 2 | SV0V | 0V solenoid valve |
| 3 | SW24V | +24 V SI and input blocks |
| 4 | SW0V | 0 V SI and input blocks |
| 5 | E | Ground connection |



PROFIBUS-DP: M12...5 pins (Plug)
Example of the cable set with socket:
SMC: EX500-AP...S (See page 2-2-25.)

| Pos. | Description | Function |
|------|-------------|---------------------------|
| 1 | SV24V | +24 V solenoid valve |
| 2 | SV0V | 0 V solenoid valve |
| 3 | SW24V | +24 V SI and input blocks |
| 4 | SW0V | 0 V SI and input blocks |
| 5 | E | Ground connection |

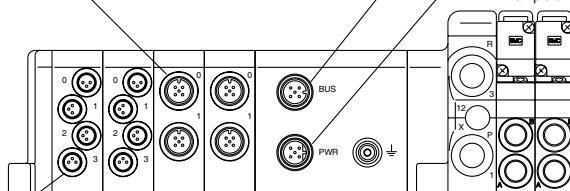


Circuit diagram Input module (EX250-IE*)

Input connection: M12 ... 5 pins (Socket)
Example for the cable side connection: OMRON Corporation XS2G;
Karl Lumberg GmbH: Series RST5; Franz Binder GmbH: Series 713,763

| Pos. | Description | Function |
|------|--------------|--------------------------|
| 1 | SW+ | Sensor power supply + |
| 2 | N.C (SIGNAL) | Open* |
| 3 | SW- | Sensor power supply - |
| 4 | SIGNAL | Sensor input signal |
| 5 | E | Sensor ground connection |

* In the 4 input type unit (EX250-IE2), this is the input signal from the second sensor connected.

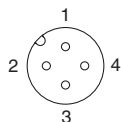


Input connection: M8 ... 3 pins (Socket)
Example for cable side connection: Franz Binder GmbH Series 718, 768
Karl Lumberg GmbH: Series RSMV3

| Pos. | Description | Function |
|------|-------------|-----------------------|
| 1 | SW+ | Sensor power supply + |
| 3 | SW- | Sensor power supply - |
| 4 | SIGNAL | Sensor input signal |

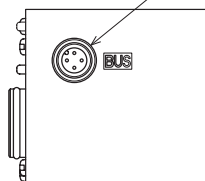
AS-i EX250-SAS7 / EX250-SAS9

Communication connector: M12 male 4 pins

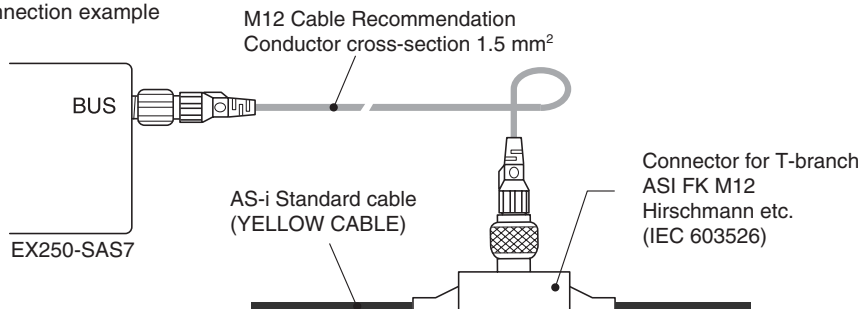


| Pos. | Description | Function |
|------|-------------|----------------------------|
| 1 | AS-i + | Positive AS-Interface line |
| 2 | RESERVE | RESERVE |
| 3 | AS-i - | Negative AS-Interface line |
| 4 | RESERVE | RESERVE |

Communication connector



Connection example



VQC

SQ

VQ0

VQ4

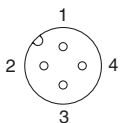
VQ5

VQZ

VQD

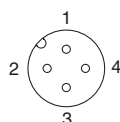
AS-i EX250-SAS3 / EX250-SAS5

Communication connector: M12 male 4 pins



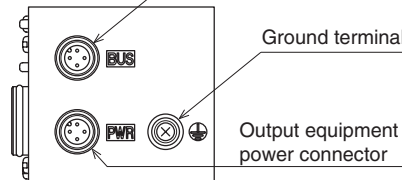
| Pos. | Description | Function |
|------|-------------|--------------------------------------|
| 1 | AS-i + | Positive AS-Interface line |
| 2 | 0V | Negative output equipment power line |
| 3 | AS-i - | Negative AS-Interface line |
| 4 | 24V | Positive output equipment power line |

Output equipment power connector: M12 male 4 pins



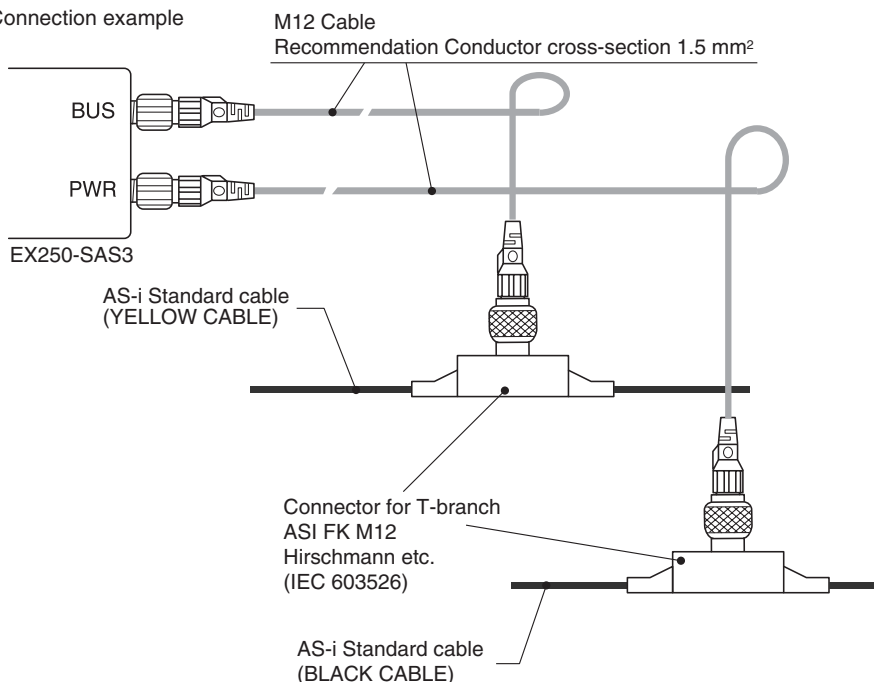
| Pos. | Description | Function |
|------|-------------|--------------------------------------|
| 1 | 24V | Positive output equipment power line |
| 2 | NC | Not connected |
| 3 | 0V | Negative output equipment power line |
| 4 | NC | Not connected |

Communication connector



* Connected inside the SI unit.

Connection example

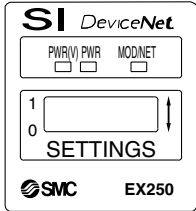


S VQC1000/2000/4000 Kit (Serial transmission kit) for I/O **IP67 compliant**

Indicator Unit (LED) Description and Its Function

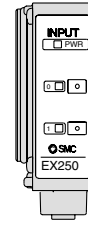
SI unit

DeviceNet (EX250-SDN1)

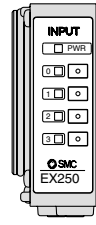


| Name | Function |
|---------|--|
| PWR(V) | ON when solenoid valve power supply is turned ON. |
| PWR | ON when DeviceNet circuit power supply input is turned ON. |
| MOD/NET | OFF: Power supply off, off line, or when checking duplication of MAC_ID. |
| | GREEN BLINKING: Waiting for connection (on line). |
| | GREEN ON: Connection established (on line). |
| | RED BLINKING: Connection time out (minor communication abnormality). |
| | RED ON: MAC_ID duplication error, or BUSOFF error (major communication abnormality). |

Input block (EX250-IE1/2/3)



2-input type (EX250-IE1)



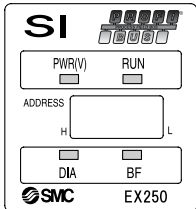
4-input type (EX250-IE2/3)

| Description | Function |
|-------------|------------------------------------|
| PWR | ON when sensor power is turned ON. |
| 0 to 1(3) | ON when each sensor input goes ON. |



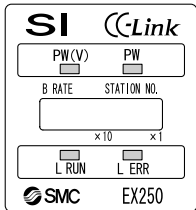
* Please contact your SMC representative for specifications and handling precautions.

PROFIBUS-DP (EX250-SPR1)



| Name | Function |
|--------|---|
| PWR(V) | GREEN ON when solenoid valve power supply is turned ON. GREEN OFF when the power supply voltage is less than 19 V. |
| RUN | GREEN ON when operating (SI unit power supply is ON). |
| DIA | RED ON when self diagnosis device detects abnormality. |
| BF | RED ON for BUS abnormality. |

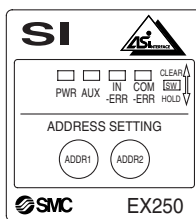
CC-Link (EX250-SMJ2)



| Name | Function |
|-------|--|
| PW | ON: Input and control unit power supply ON. OFF: Input and control unit power supply OFF. |
| PW(V) | ON: Solenoid valve power supply ON. OFF: Solenoid valve power supply voltage is less than 19 V. |
| L RUN | ON: Normal traffic OFF: Traffic disconnected (Timeover error) |
| L ERR | ON: Traffic error BLINKING: Station or baud rate switch is set while the power supply is ON. OFF: Normal traffic |

When the data link is normal, PW, PW (V) and L RUN are ON.

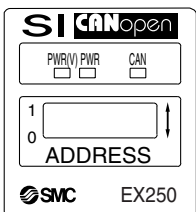
AS-i (EX250-SAS□)



| Name | LED Condition | Contents |
|---------|---------------|---|
| PWR | Green Light | In time of power supply for AS-Interface line is turned on. |
| AUX | Green Light | In time of auxiliary power supply for output equipment is turned on. |
| IN-ERR | Red Light | In time of input power is detected over current. (Lights off at normal condition) |
| COM-ERR | Red Light | In time of communication error. (Lights off at normal condition) |
| | Red Blink | In time of peripheral equipment error. (Over current of input power, blowing the fuse etc.) |

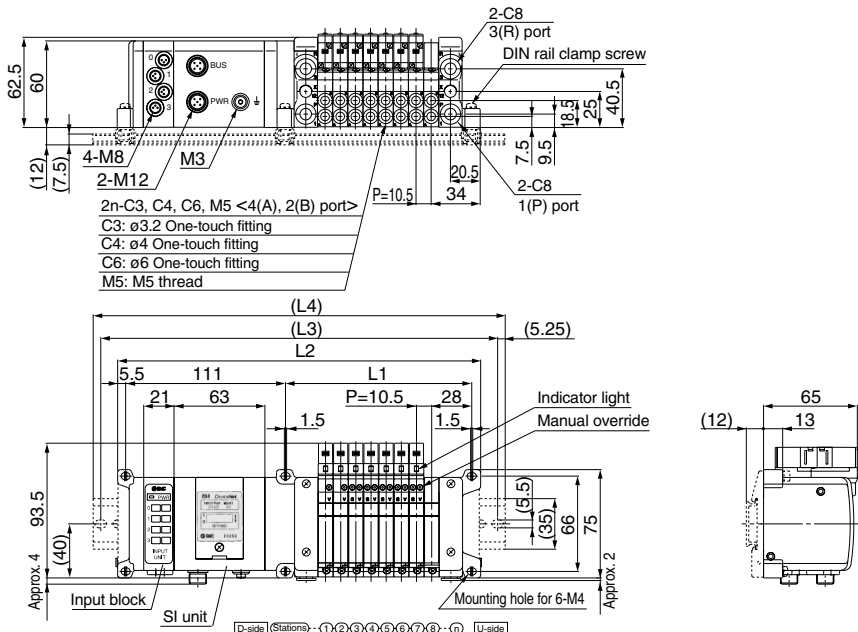
SI unit

CANopen (EX250-SCA1)



| Name | LED Condition | Contents |
|--------|------------------------------|---|
| PWR(V) | Green Light | Illuminates when power for solenoid valves is supplied |
| | Green Light | Illuminates when power for CANopen line is supplied |
| PWR | Green Light | Illuminates when SI unit is in the Operational state |
| | Green Light (Blinking) | SI unit is in the Pre-operational state |
| | Green Light (Single flash) | Single flash when SI unit is in Stopped state |
| | Red Light (Single flash) | Single flash when CAN controller error occurs |
| | Red Light (Double flash) | Double flash when Error Control Event occurs |
| | Green/Red Light (flickering) | Flickering when SI unit is in Configuration mode (LSS services) |
| | Red Light | Red Light SI unit is in "Bus OFF" state |

VV5QC11
S Kit
 (Serial transmission
 kit: EX250)

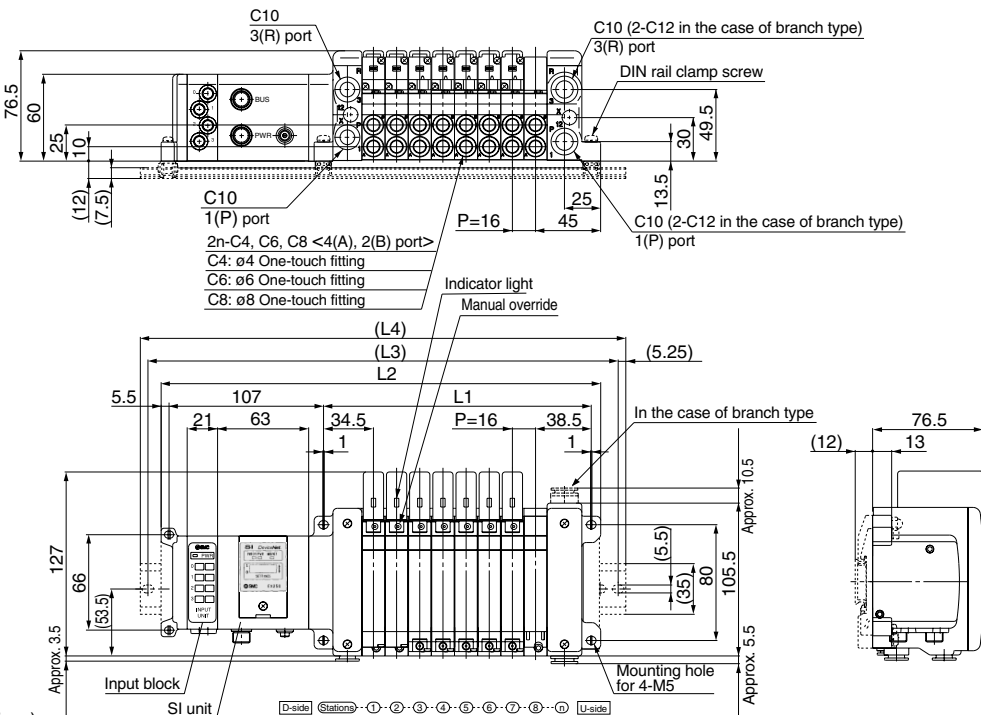


Formulas
 $L1 = 10.5n + 45$ (Maximum 24 single wiring stations)
 * $L2$: For one input block. Add 21 mm for each additional input block.

| L \ n | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 55.5 | 66 | 76.5 | 87 | 97.5 | 108 | 118.5 | 129 | 139.5 | 150 | 160.5 | 171 | 181.5 | 192 | 202.5 | 213 | 223.5 | 234 | 244.5 | 255 | 265.5 | 276 | 286.5 | 297 |
| L2 | 178 | 188.5 | 199 | 209.5 | 220 | 230.5 | 241 | 251.5 | 262 | 272.5 | 283 | 293.5 | 304 | 314.5 | 325 | 335.5 | 346 | 356.5 | 367 | 377.5 | 388 | 398.5 | 409 | 419.5 |
| L3 | 200 | 212.5 | 225 | 237.5 | 250 | 250 | 262.5 | 275 | 287.5 | 300 | 312.5 | 325 | 325 | 337.5 | 350 | 362.5 | 375 | 387.5 | 387.5 | 400 | 412.5 | 425 | 437.5 | 450 |
| L4 | 210.5 | 223 | 235.5 | 248 | 260.5 | 260.5 | 273 | 285.5 | 298 | 310.2 | 323 | 335.5 | 335.5 | 348 | 360.5 | 373 | 385.5 | 398 | 398 | 410.5 | 423 | 435.5 | 448 | 448 |

* With signal cut block, L4 is obtained by adding approximately 30 mm to L2.

VV5QC21
S Kit
 (Serial transmission
 kit: EX250)



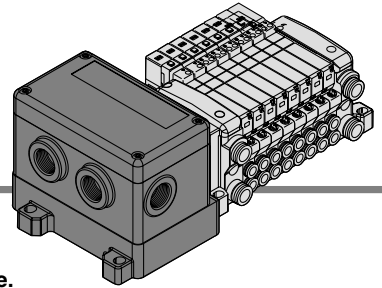
Formulas
 $L1 = 16n + 57$ (Maximum 24 single wiring stations)
 * $L2$: For one input block. Add 21 mm for each additional input block.

| L \ n | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 73 | 89 | 105 | 121 | 137 | 153 | 169 | 185 | 201 | 217 | 233 | 249 | 265 | 281 | 297 | 313 | 329 | 345 | 361 | 377 | 393 | 409 | 425 | 441 |
| L2 | 192 | 208 | 224 | 240 | 256 | 272 | 288 | 304 | 320 | 336 | 352 | 368 | 384 | 400 | 416 | 432 | 448 | 464 | 480 | 496 | 512 | 528 | 544 | 560 |
| L3 | 212.5 | 237.5 | 250 | 262.5 | 275 | 287.5 | 312.5 | 325 | 337.5 | 362.5 | 375 | 387.5 | 400 | 425 | 437.5 | 450 | 462.5 | 487.5 | 500 | 512.5 | 537.5 | 550 | 562.5 | 587.5 |
| L4 | 223 | 248 | 260.5 | 273 | 285.5 | 298 | 323 | 335.5 | 348 | 373 | 385.5 | 398 | 410.5 | 435.5 | 448 | 460.5 | 473 | 498 | 510.5 | 523 | 548 | 560.5 | 573 | 598 |

* With signal cut block, L4 is obtained by adding approximately 30 mm to L2.

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

S VQC1000/2000/4000
Kit (Serial transmission kit) for I/O IP67 compliant



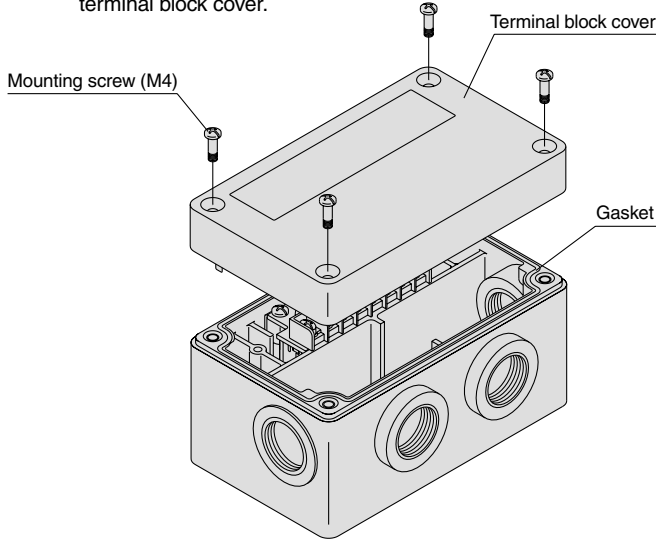
Compatible network **CC-Link**

- The serial transmission system greatly reduces connection work, minimizes wiring, and saves space.

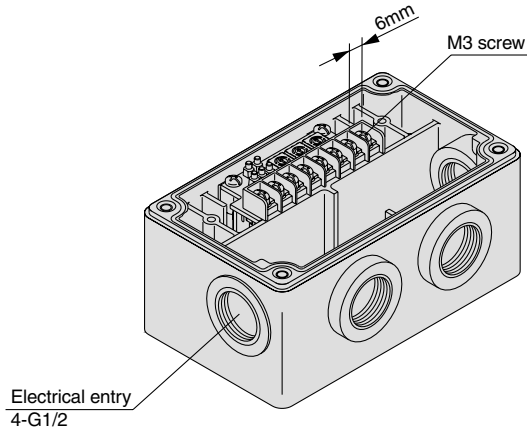
Terminal Block Connection

Step 1. How to remove terminal block cover

Loosen the 4 mounting screws (M4) and remove the terminal block cover.



Step 2. Wire the cables according to the terminal block specifications below. Pay attention to the wire bound positions.



Step 3. How to replace the terminal block cover

Securely tighten the screws to the torque shown in the table below, after confirming that the gasket is installed correctly.

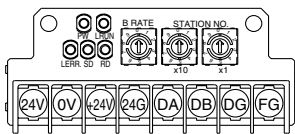
| |
|--------------------------------|
| Proper tightening torque (N·m) |
| 0.7 to 1.2 |

- Applicable crimp terminal (fork tongue type): 1.25-3S, 1.25Y-3, 1.25Y-3N, 1.25Y-3.5

* For detailed specifications and handling, refer to the operation manual provided by SMC.

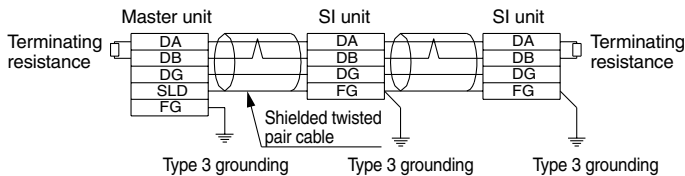
Terminal Block Details

• Terminal block LED descriptions



| Description | Function |
|---------------|---|
| PW | ON when transmission power supply is ON. OFF when transmission power supply is OFF. |
| L RUN | ON when normal data is received. |
| SD | ON when data is sent. |
| RD | ON when data is received. |
| L ERR. | ON for transmission error and incorrect settings. BLINKING for change in station or transmission speed settings. |

• Cable wiring

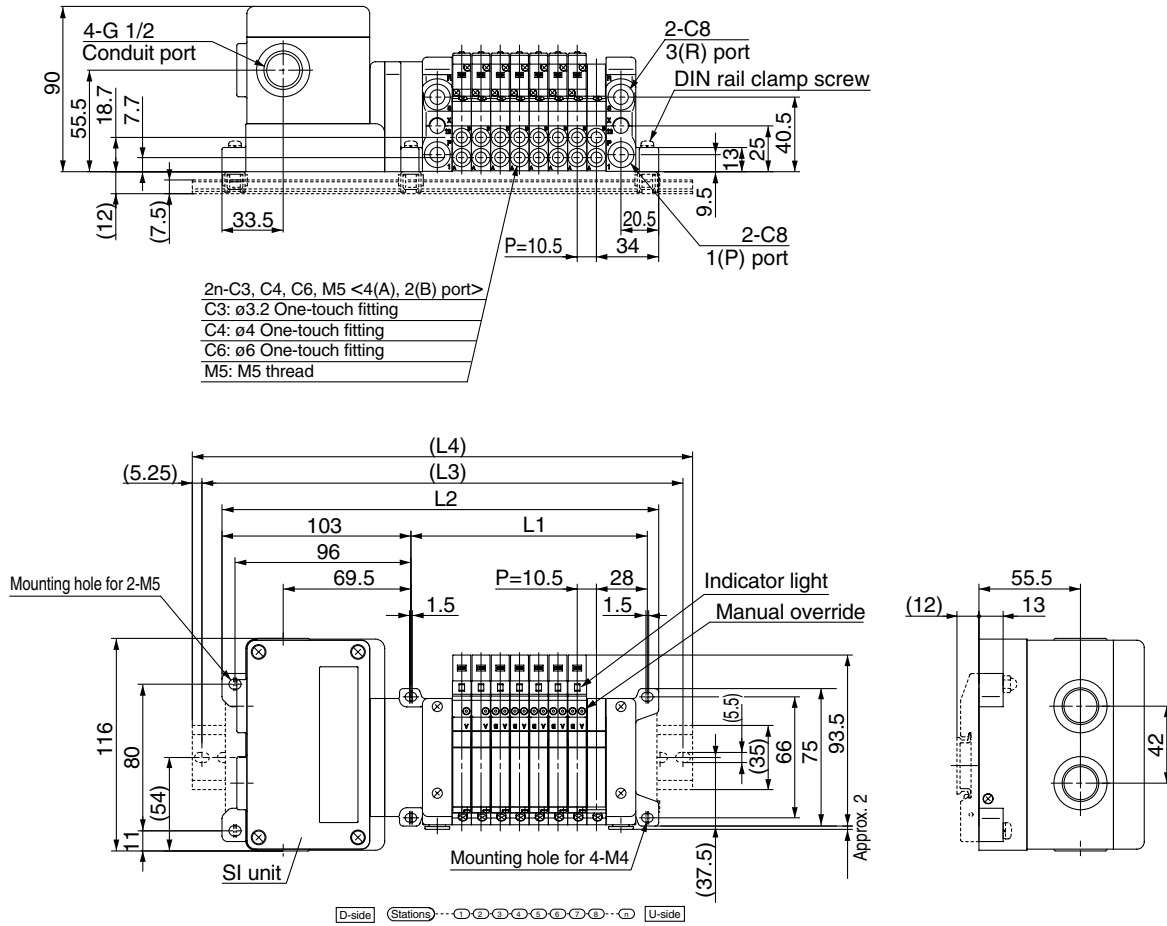


• Note

- CC-LINK System
 - Master unit: AJ61BT11
 - Master unit: A1SJ61BT11
 - Master unit: AJ61QBT11
 - Master unit: A1SJ61QBT11

- 16 outputs

VV5QC11
S Kit (Serial transmission kit: EX126)



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

| L \ n | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 55.5 | 66 | 76.5 | 87 | 97.5 | 108 | 118.5 | 129 | 139.5 | 150 | 160.5 | 171 | 181.5 | 192 | 202.5 | 213 |
| L2 | 165 | 175.5 | 186 | 196.5 | 207 | 217.5 | 228 | 238.5 | 249 | 259.5 | 270 | 280.5 | 291 | 301.5 | 312 | 322.5 |
| L3 | 187.5 | 200 | 212.5 | 212.5 | 225 | 237.5 | 250 | 262.5 | 275 | 275 | 287.5 | 300 | 312.5 | 325 | 337.5 | 337.5 |
| L4 | 198 | 210.5 | 223 | 223 | 235.5 | 248 | 260.5 | 273 | 285.5 | 285.5 | 298 | 310.5 | 323 | 335.5 | 348 | 348 |

* With signal cut block, L4 is obtained by adding approximately 30 mm to L2.

Series VQC

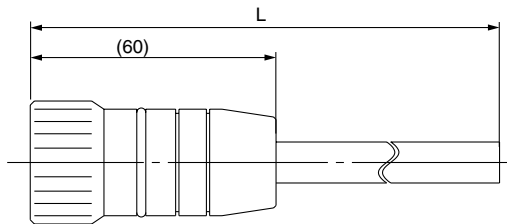
Manifold Option

■ Circular connector/Cable assembly (26 pins)

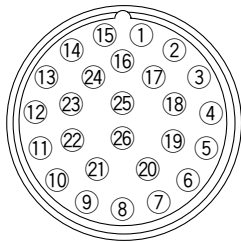
AXT100 – MC26 – □

Lead Wire Length

| Part no. | L dimension |
|-----------------|-------------|
| AXT100-MC26-015 | 1.5 m |
| AXT100-MC26-030 | 3 m |
| AXT100-MC26-050 | 5 m |



Plug terminal no.
(arrangement as seen from lead wire side)



Circular Connector Cable Assembly Terminal No.

| Terminal no. | Lead wire color | Dot marking |
|--------------|-----------------|-------------|
| ① | Black | None |
| ② | Brown | None |
| ③ | Red | None |
| ④ | Orange | None |
| ⑤ | Yellow | None |
| ⑥ | Pink | None |
| ⑦ | Blue | None |
| ⑧ | Purple | White |
| ⑨ | Gray | Black |
| ⑩ | White | Black |
| ⑪ | White | Red |
| ⑫ | Yellow | Red |
| ⑬ | Orange | Red |
| ⑭ | Yellow | Black |
| ⑮ | Pink | Black |
| ⑯ | Blue | White |
| ⑰ | Purple | None |
| ⑱ | Gray | None |
| ⑲ | Orange | Black |
| ⑳ | Red | White |
| ㉑ | Brown | White |
| ㉒ | Pink | Red |
| ㉓ | Gray | Red |
| ㉔ | Black | White |
| ㉕ | White | None |

Note) Terminal no. ㉖ is connected to ㉕ inside the connector.

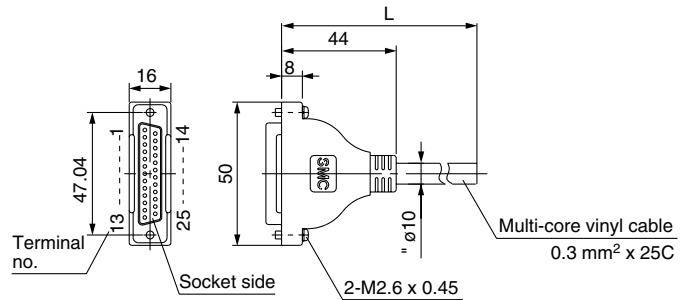
■ D-sub connector/Cable assembly (25 pins)

AXT100 – DS25 – □

Lead Wire Length

| Part no. | L dimension |
|-----------------|-------------|
| AXT100-DS25-015 | 1.5 m |
| AXT100-DS25-030 | 3 m |
| AXT100-DS25-050 | 5 m |

When a commercially available connector is required, use a 25 pin female connector conforming to MIL-C24308.



D-sub Connector Cable Assembly Terminal No.

| Terminal no. | Lead wire color | Dot marking |
|--------------|-----------------|-------------|
| ① | Black | None |
| ② | Brown | None |
| ③ | Red | None |
| ④ | Orange | None |
| ⑤ | Yellow | None |
| ⑥ | Pink | None |
| ⑦ | Blue | None |
| ⑧ | Purple | White |
| ⑨ | Gray | Black |
| ⑩ | White | Black |
| ⑪ | White | Red |
| ⑫ | Yellow | Red |
| ⑬ | Orange | Red |
| ⑭ | Yellow | Black |
| ⑮ | Pink | Black |
| ⑯ | Blue | White |
| ⑰ | Purple | None |
| ⑱ | Gray | None |
| ⑲ | Orange | Black |
| ⑳ | Red | White |
| ㉑ | Brown | White |
| ㉒ | Pink | Red |
| ㉓ | Gray | Red |
| ㉔ | Black | White |
| ㉕ | White | None |

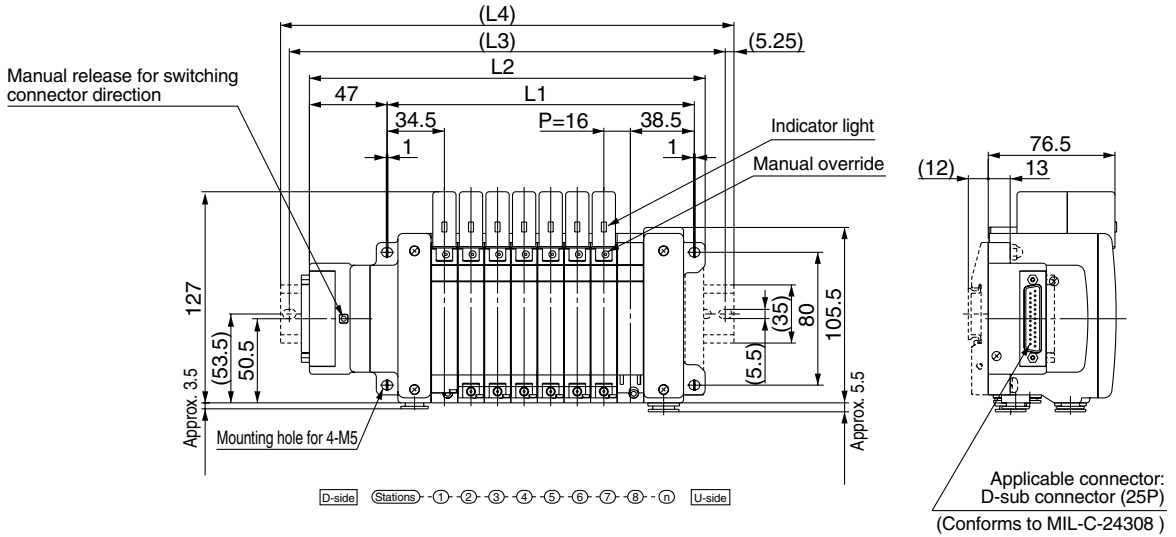
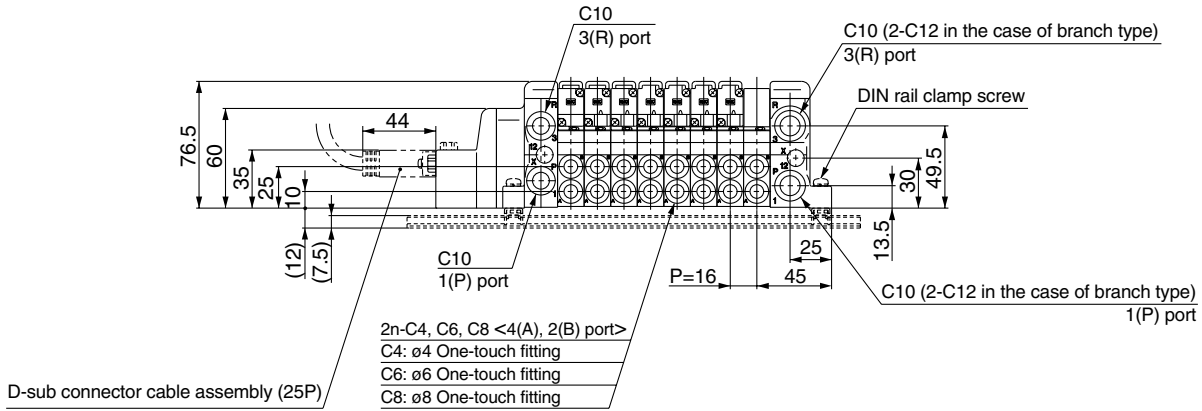
Circular Connector, D-sub Connector Cable Assembly Electric Characteristics

| Item | Characteristics |
|-----------------------------------|-----------------|
| Conductor resistance W/km, 20°C | 65 or less |
| Withstand voltage VAC, 1 min. | 1000 |
| Insulation resistance, M/km, 20°C | 5 or less |

Note) The minimum inside bending radius for each cable is 20 mm.

F VQC1000/2000/4000
Kit (D-sub connector) IP40 compliant

VV5QC21



Formulas
 $L1 = 16n + 57$ (Maximum 24 single wiring stations)
 $L2 = 16n + 110.5$

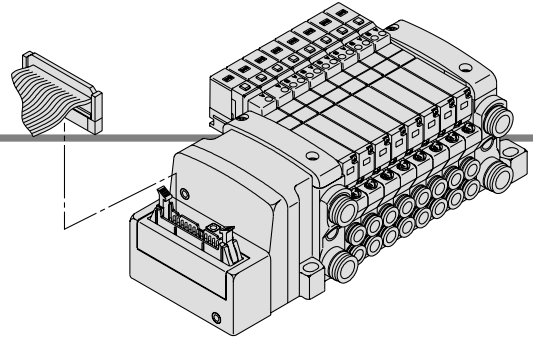
| L | n: Stations | | | | | | | | | | | | | | | | | | | | | | | |
|----|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| L1 | 73 | 89 | 105 | 121 | 137 | 153 | 169 | 185 | 201 | 217 | 233 | 249 | 265 | 281 | 297 | 313 | 329 | 345 | 361 | 377 | 393 | 409 | 425 | 441 |
| L2 | 126.5 | 142.5 | 158.5 | 174.5 | 190.5 | 206.5 | 222.5 | 238.5 | 254.5 | 270.5 | 286.5 | 302.5 | 318.5 | 334.5 | 350.5 | 366.5 | 382.5 | 398.5 | 414.5 | 430.5 | 446.5 | 462.5 | 478.5 | 494.5 |
| L3 | 150 | 162.5 | 187.5 | 200 | 212.5 | 237.5 | 250 | 262.5 | 275 | 300 | 312.5 | 325 | 350 | 362.5 | 375 | 387.5 | 412.5 | 425 | 437.5 | 450 | 475 | 487.5 | 500 | 525 |
| L4 | 160.5 | 173 | 198 | 210.5 | 223 | 248 | 260.5 | 273 | 285.5 | 310.5 | 323 | 335.5 | 360.5 | 373 | 385.5 | 398 | 423 | 435.5 | 448 | 460.5 | 485.5 | 498 | 510.5 | 535.5 |

* With signal cut block, L4 is obtained by adding approximately 30 mm to L2.

Series VQC

P VQC1000/2000/4000
Kit (Flat ribbon cable kit) IP40 compliant

- Using our flat ribbon cable for electrical connections greatly reduces labour, while it also minimizes wiring and saves space.
- We use flat ribbon cables whose connectors (26P and 20P) conform to MIL standards, and are therefore widely compatible with many standard commercial models.
- Top or side entry for the connector can be changed freely, allowing for changes even after mounting, to meet any changing needs for space.



Electrical Wiring Specifications

Flat ribbon cable connector

Double wiring (connected to SOL. A and SOL. B) is used for the internal wiring of each station regardless of valve and option types. Mixed single and double wiring are available as options. Refer to special wiring specifications (options) below.

Connector terminal number

Triangle mark indicator position

| <26P> | | | <20P> | | |
|------------|--------------|----------|------------|--------------|----------|
| Station | Terminal no. | Polarity | Station | Terminal no. | Polarity |
| Station 1 | SOL. A 1 | (-) (+) | Station 1 | SOL. A 1 | (-) (+) |
| | SOL. B 2 | (-) (+) | | SOL. B 2 | (-) (+) |
| Station 2 | SOL. A 3 | (-) (+) | Station 2 | SOL. A 3 | (-) (+) |
| | SOL. B 4 | (-) (+) | | SOL. B 4 | (-) (+) |
| Station 3 | SOL. A 5 | (-) (+) | Station 3 | SOL. A 5 | (-) (+) |
| | SOL. B 6 | (-) (+) | | SOL. B 6 | (-) (+) |
| Station 4 | SOL. A 7 | (-) (+) | Station 4 | SOL. A 7 | (-) (+) |
| | SOL. B 8 | (-) (+) | | SOL. B 8 | (-) (+) |
| Station 5 | SOL. A 9 | (-) (+) | Station 5 | SOL. A 9 | (-) (+) |
| | SOL. B 10 | (-) (+) | | SOL. B 10 | (-) (+) |
| Station 6 | SOL. A 11 | (-) (+) | Station 6 | SOL. A 11 | (-) (+) |
| | SOL. B 12 | (-) (+) | | SOL. B 12 | (-) (+) |
| Station 7 | SOL. A 13 | (-) (+) | Station 7 | SOL. A 13 | (-) (+) |
| | SOL. B 14 | (-) (+) | | SOL. B 14 | (-) (+) |
| Station 8 | SOL. A 15 | (-) (+) | Station 8 | SOL. A 15 | (-) (+) |
| | SOL. B 16 | (-) (+) | | SOL. B 16 | (-) (+) |
| Station 9 | SOL. A 17 | (-) (+) | Station 9 | SOL. A 17 | (-) (+) |
| | SOL. B 18 | (-) (+) | | SOL. B 18 | (-) (+) |
| Station 10 | SOL. A 19 | (-) (+) | Station 10 | COM 19 | (+) (-) |
| | SOL. B 20 | (-) (+) | | COM 20 | (+) (-) |
| Station 11 | SOL. A 21 | (-) (+) | | | |
| | SOL. B 22 | (-) (+) | | | |
| Station 12 | SOL. A 23 | (-) (+) | | | |
| | SOL. B 24 | (-) (+) | | | |
| | COM 25 | (+) (-) | | | |
| | COM 26 | (+) (-) | | | |

Positive COM. spec. Negative COM. spec.

Note) When using the negative COM. specification for VQC1000/2000, use valves for negative COM.

Cable Assembly

AXT100-FC¹₂₆₋₂₃

(Type 26P flat ribbon cable connector assemblies can be ordered with manifolds. Refer to manifold ordering.)

Terminal no. Red 28AWG

30 (20P) 37.5 (26P)

6 (15.6) L

Flat ribbon cable connector assemblies (Option)

| Cable length (L) | Part no. | |
|------------------|---------------|---------------|
| | 26P | 20P |
| 1.5 m | AXT100-FC26-1 | AXT100-FC20-1 |
| 3 m | AXT100-FC26-2 | AXT100-FC20-2 |
| 5 m | AXT100-FC26-3 | AXT100-FC20-3 |

* When using a standard commercial connector, use a type 26P connector conforming to MIL-C-83503 or a type 20P with strain relief.
* Cannot be used for transfer wiring.

Connector Manufacturers Example:

- Hirose Electric CO., Ltd.
- Sumitomo/3-M Limited
- Fujitsu, Ltd.
- Japan Aviation Electronics Industry, Ltd.
- J.S.T. Mfg. Co., Ltd.
- Oki Electric Cable Co., Ltd.

Special Wiring Specifications (Option)

COM. COM. COM. COM.

(For 26P) (For 20P)

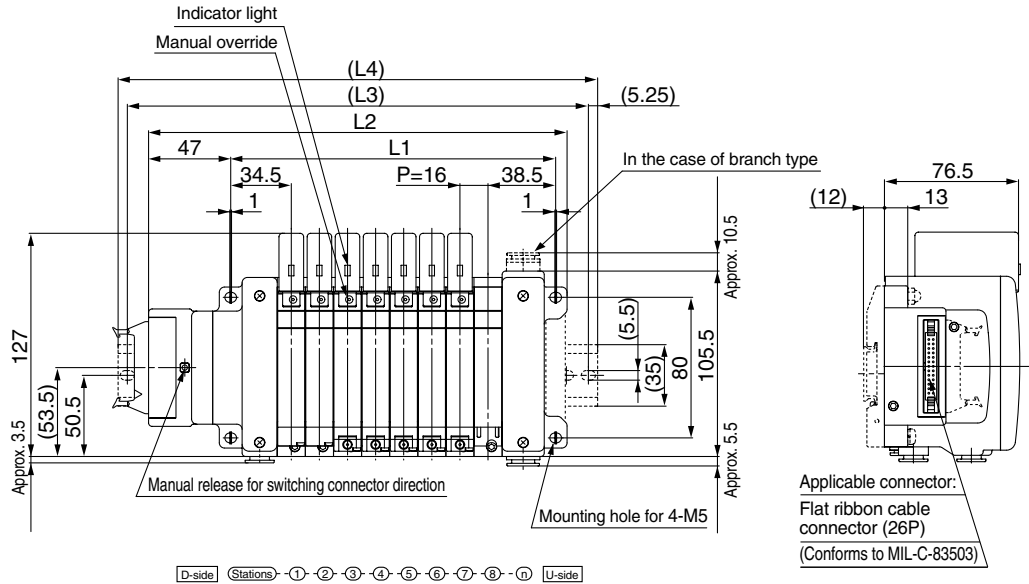
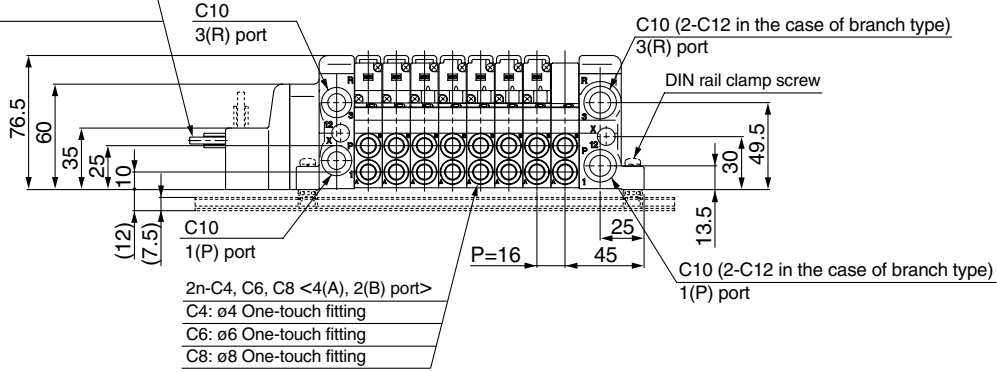
Mixed single and double wiring are available as options. The maximum number of manifold stations is determined by the number of solenoids. Count one point for a single solenoid type and two points for a double solenoid type. The total number of solenoids (points) must not exceed 24.

P VQC1000/2000/4000
Kit (Flat ribbon cable kit) IP40 compliant

VV5QC21

Flat ribbon cable connector assembly (26P)

- AXT100-FC26-1: 1.5 m
- AXT100-FC26-2: 3 m
- AXT100-FC26-3: 5 m



Applicable connector:
Flat ribbon cable connector (26P)
(Conforms to MIL-C-83503)

Formulas

$L1 = 16n + 57$ (Maximum 24 single wiring stations)

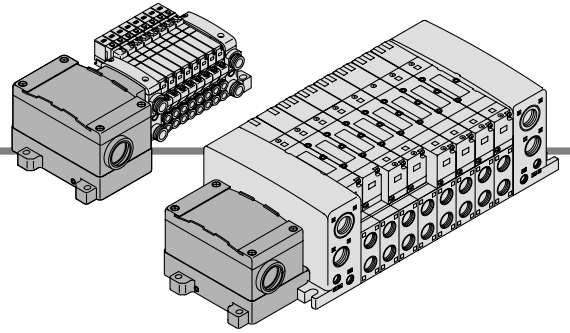
$L2 = 16n + 110.5$

n: Stations

| L \ n | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 73 | 89 | 105 | 121 | 137 | 153 | 169 | 185 | 201 | 217 | 233 | 249 | 265 | 281 | 297 | 313 | 329 | 345 | 361 | 377 | 393 | 409 | 425 | 441 |
| L2 | 126.5 | 142.5 | 158.5 | 174.5 | 190.5 | 206.5 | 222.5 | 238.5 | 254.5 | 270.5 | 286.5 | 302.5 | 318.5 | 334.5 | 350.5 | 366.5 | 382.5 | 398.5 | 414.5 | 430.5 | 446.5 | 462.5 | 478.5 | 494.5 |
| L3 | 150 | 162.5 | 187.5 | 200 | 212.5 | 237.5 | 250 | 262.5 | 275 | 300 | 312.5 | 325 | 350 | 362.5 | 375 | 387.5 | 412.5 | 425 | 437.5 | 450 | 475 | 487.5 | 500 | 525 |
| L4 | 160.5 | 173 | 198 | 210.5 | 223 | 248 | 260.5 | 273 | 285.5 | 310.5 | 323 | 335.5 | 360.5 | 373 | 385.5 | 398 | 423 | 435.5 | 448 | 460.5 | 485.5 | 498 | 510.5 | 535.5 |

* With signal cut block, L4 is obtained by adding approximately 30 mm to L2.

T VQC1000/2000/4000
Kit (Terminal block box kit) IP67 compliant

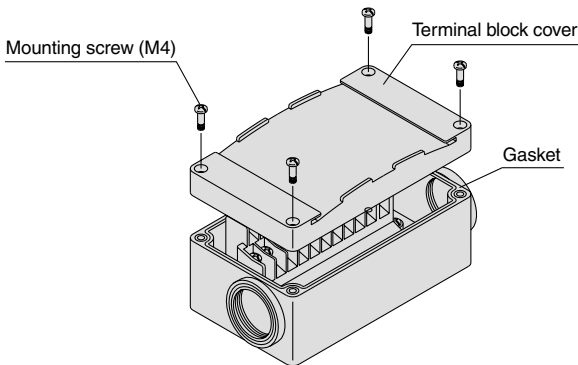


• This kit has a small terminal block inside a junction box. The provision of a G 3/4 electrical entry allows connection of conduit fittings.

Terminal Block Connection

Step 1. How to remove terminal block cover

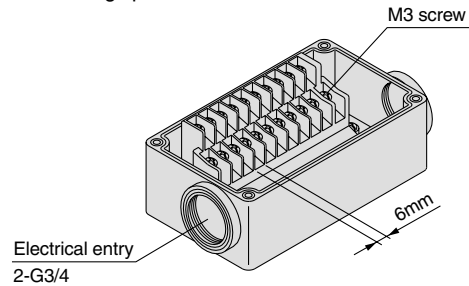
Loosen the 4 mounting screws (M4) and remove the terminal block cover.



Step 2. The diagram below shows the terminal block wiring.

All stations are provided with double wiring regardless of the valves which are mounted.

Connect each wire to the power supply side, according to the markings provided inside the terminal block.



Step 3. How to replace the terminal block cover

Securely tighten the screws to the torque shown in the table below, after confirming that the gasket is installed correctly.

| |
|--------------------------------|
| Proper tightening torque (N·m) |
| 0.7 to 1.2 |

• Applicable crimp terminal (fork tongue type): 1.25-3S, 1.25Y-3, 1.25Y-3N, 1.25Y-3.5

Electrical Wiring Specifications (Conforms to IP67)

| | Terminal no. | Polarity |
|------------|--------------|----------|
| Station 1 | SOL. A 1A | (-) (+) |
| | SOL. B 1B | (-) (+) |
| Station 2 | SOL. A 2A | (-) (+) |
| | SOL. B 2B | (-) (+) |
| Station 3 | SOL. A 3A | (-) (+) |
| | SOL. B 3B | (-) (+) |
| Station 4 | SOL. A 4A | (-) (+) |
| | SOL. B 4B | (-) (+) |
| Station 5 | SOL. A 5A | (-) (+) |
| | SOL. B 5B | (-) (+) |
| Station 6 | SOL. A 6A | (-) (+) |
| | SOL. B 6B | (-) (+) |
| Station 7 | SOL. A 7A | (-) (+) |
| | SOL. B 7B | (-) (+) |
| Station 8 | SOL. A 8A | (-) (+) |
| | SOL. B 8B | (-) (+) |
| Station 9 | SOL. A 9A | (-) (+) |
| | SOL. B 9B | (-) (+) |
| Station 10 | SOL. A 10A | (-) (+) |
| | SOL. B 10B | (-) (+) |
| | COM. | (+) (-) |

Positive COM. Negative COM.

The internal wiring is double (connected to SOL. A and SOL. B) for all stations regardless of the type of valve or options. Mixed single and double wiring are available as options.

Note) When using the negative COM. specification for VQC1000/2000, use valves for negative COM.

Special Wiring Specifications (Option)

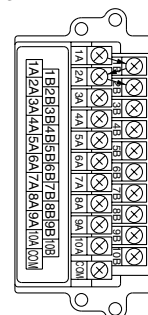
Mixed single and double wiring are available as options. The maximum number of manifold stations is determined by the number of solenoids. Count one point for a single solenoid type and two points for a double solenoid type. The total number of solenoids (points) must not exceed 20.

1. How to order

Indicate option symbol "-K" in the manifold part number and be sure to specify station positions for single or double wiring on the manifold specification sheet.

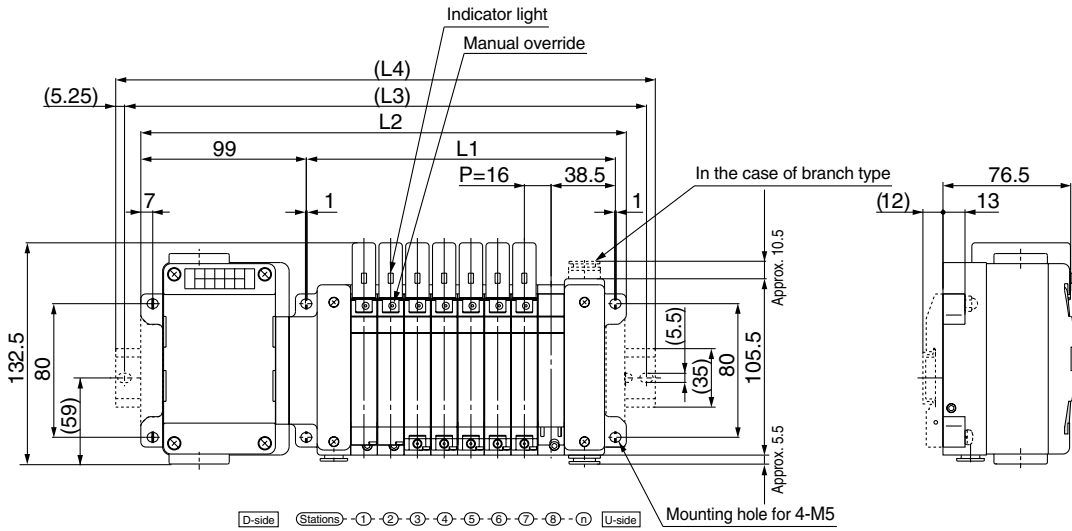
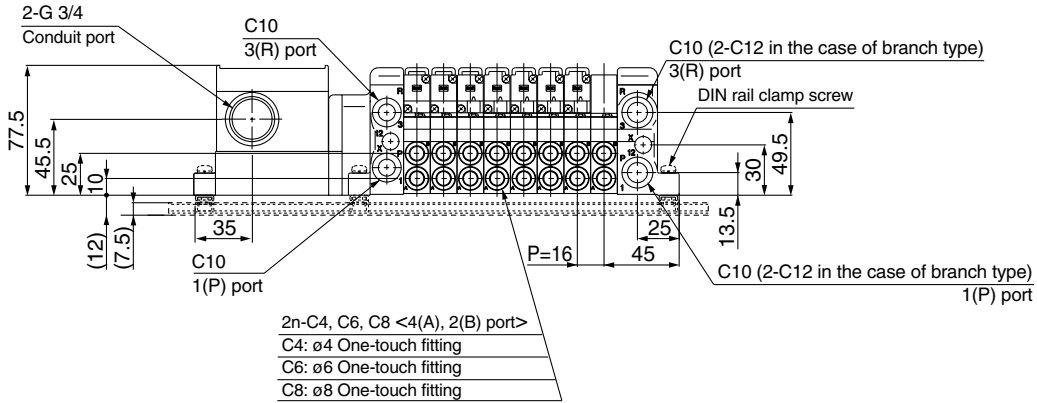
2. Wiring specifications

Connector terminal numbers are connected from solenoid station 1 on the A side in the order indicated by the arrows without skipping any terminal numbers.



T VQC1000/2000/4000
Kit (Terminal block box kit) IP67 compliant

VV5QC21



Formulas
 $L1 = 16n + 57$ (Maximum 20 single wiring stations)
 $L2 = 16n + 163$

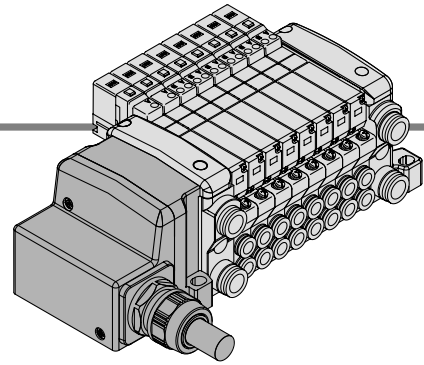
n: Stations

| L \ n | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 73 | 89 | 105 | 121 | 137 | 153 | 169 | 185 | 201 | 217 | 233 | 249 | 265 | 281 | 297 | 313 | 329 | 345 | 361 | 377 |
| L2 | 179 | 195 | 211 | 227 | 243 | 259 | 275 | 291 | 307 | 323 | 339 | 355 | 371 | 387 | 403 | 419 | 435 | 451 | 467 | 483 |
| L3 | 200 | 212.5 | 237.5 | 237.5 | 262.5 | 262.5 | 287.5 | 312.5 | 325 | 371 | 362.5 | 375 | 408.5 | 412.5 | 425 | 437.5 | 462.5 | 496 | 487.5 | 500 |
| L4 | 210.5 | 223 | 248 | 248 | 273 | 273 | 298 | 323 | 335.5 | 360.5 | 373 | 385.5 | 398 | 423 | 435.5 | 448 | 473 | 485.5 | 498 | 510.5 |

* With signal cut block, L4 is obtained by adding approximately 30 mm to L2.

Series VQC

L VQC1000/2000/4000
Kit (Lead wire kit) IP67 compliant

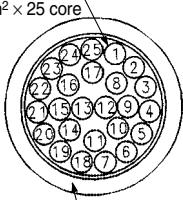


- Direct electrical entry type.
- IP67 enclosure is available with use of cables with sheath and waterproof connectors.

Electrical Wiring Specifications

Lead wire specifications

Lead wire
0.3 mm² × 25 core



Sheath
Colour: Urban white

As the standard electrical wiring specification used is for 12 stations or less, double wiring (connected to SOL. A and SOL. B) is used for the internal wiring of each station regardless of valve and option types. Mixed single and double wiring are available as options. Refer to special wiring specifications (options) below.

Lead wire length

VV5QC11-08 C6 LD 0

Lead wire length

| | |
|---|-------|
| 0 | 0.6 m |
| 1 | 1.5 m |
| 2 | 3.0 m |

Electrical characteristics

| Item | Characteristic |
|---------------------------------------|----------------|
| Conductor resistance Ω/km, 20°C | 65 or less |
| Withstand pressure V, 1 minute, AC | 1000 |
| Insulation resistance MΩ/km, 20°C | 5 or more |

Note) Cannot be used for transfer wiring. The minimum bending radius for cables is 20 mm.

| | Terminal no. | Polarity | | Lead wire colour | Dot marking |
|------------|--------------|----------|-----|------------------|-------------|
| Station 1 | SOL. A 1 | (-) | (+) | Black | None |
| | SOL. B 14 | (-) | (+) | Yellow | Black |
| Station 2 | SOL. A 2 | (-) | (+) | Brown | None |
| | SOL. B 15 | (-) | (+) | Pink | Black |
| Station 3 | SOL. A 3 | (-) | (+) | Red | None |
| | SOL. B 16 | (-) | (+) | Blue | White |
| Station 4 | SOL. A 4 | (-) | (+) | Orange | None |
| | SOL. B 17 | (-) | (+) | Purple | None |
| Station 5 | SOL. A 5 | (-) | (+) | Yellow | None |
| | SOL. B 18 | (-) | (+) | Grey | None |
| Station 6 | SOL. A 6 | (-) | (+) | Pink | None |
| | SOL. B 19 | (-) | (+) | Orange | Black |
| Station 7 | SOL. A 7 | (-) | (+) | Blue | None |
| | SOL. B 20 | (-) | (+) | Red | White |
| Station 8 | SOL. A 8 | (-) | (+) | Purple | White |
| | SOL. B 21 | (-) | (+) | Brown | White |
| Station 9 | SOL. A 9 | (-) | (+) | Grey | Black |
| | SOL. B 22 | (-) | (+) | Pink | Red |
| Station 10 | SOL. A 10 | (-) | (+) | White | Black |
| | SOL. B 23 | (-) | (+) | Grey | Red |
| Station 11 | SOL. A 11 | (-) | (+) | White | Red |
| | SOL. B 24 | (-) | (+) | Black | White |
| Station 12 | SOL. A 12 | (-) | (+) | Yellow | Red |
| | SOL. B 25 | (-) | (+) | White | None |
| | COM. 13 | (+) | (-) | Orange | Red |

Positive COM. spec. Negative COM. spec. Note)

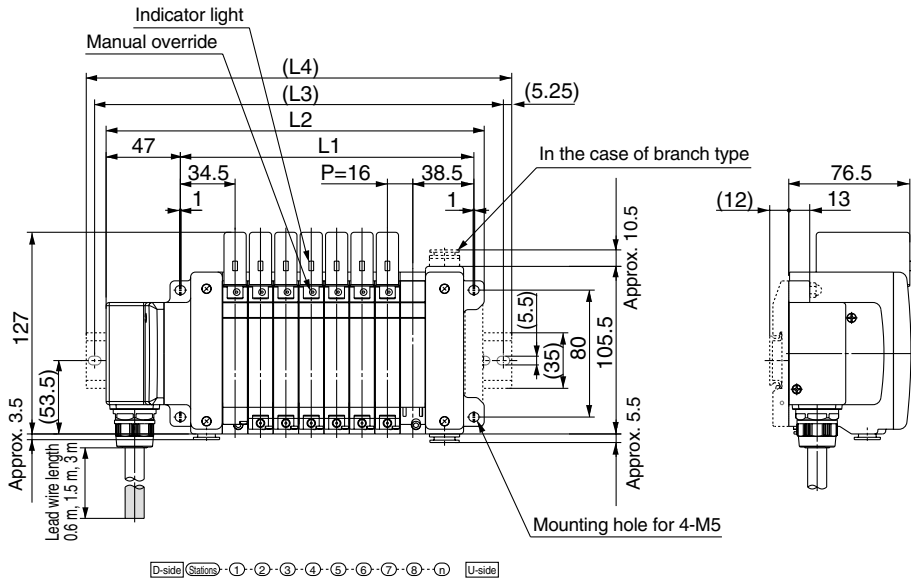
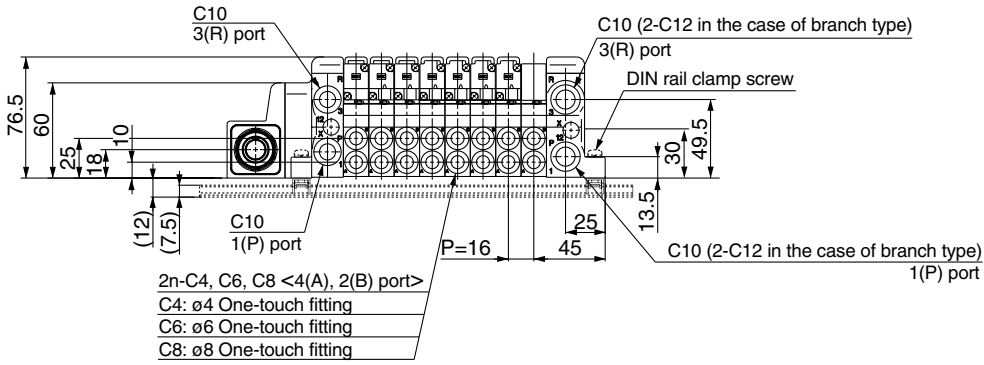
Note) When using the negative COM. specification for VQC1000/2000, use valves for negative COM.

Special Wiring Specifications (Option)

Mixed single and double wiring are available as options. The maximum number of manifold stations is determined by the number of solenoids. Count one point for a single solenoid type and two points for a double solenoid type. The total number of solenoids (points) must not exceed 24.

VQC1000/2000/4000
Kit (Lead wire kit) IP67 compliant

VV5QC21



Formulas

$L1 = 16n + 57$ (Maximum 24 single wiring stations)

$L2 = 16n + 110.5$

n: Stations

| L \ n | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| L1 | 73 | 89 | 105 | 121 | 137 | 153 | 169 | 185 | 201 | 217 | 233 | 249 | 265 | 281 | 297 | 313 | 329 | 345 | 361 | 377 | 393 | 409 | 425 | 441 |
| L2 | 126.5 | 142.5 | 158.5 | 174.5 | 190.5 | 206.5 | 222.5 | 238.5 | 254.5 | 270.5 | 286.5 | 302.5 | 318.5 | 334.5 | 350.5 | 366.5 | 382.5 | 398.5 | 414.5 | 430.5 | 446.5 | 462.5 | 478.5 | 494.5 |
| L3 | 150 | 162.5 | 187.5 | 200 | 212.5 | 237.5 | 250 | 262.5 | 275 | 300 | 312.5 | 325 | 350 | 362.5 | 375 | 387.5 | 412.5 | 425 | 437.5 | 450 | 475 | 487.5 | 500 | 525 |
| L4 | 160.5 | 173 | 198 | 210.5 | 223 | 248 | 260.5 | 273 | 285.5 | 310.5 | 323 | 335.5 | 360.5 | 373 | 385.5 | 398 | 423 | 435.5 | 448 | 460.5 | 485.5 | 498 | 510.5 | 535.5 |

* With signal cut block, L4 is obtained by adding approximately 30 mm to L2.

Series VQC

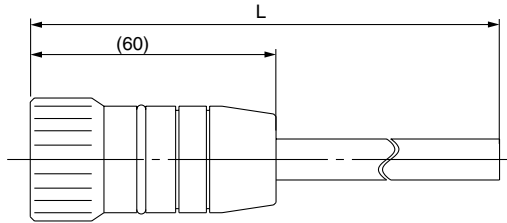
Manifold Option

■ Circular connector/Cable assembly (26 pins)

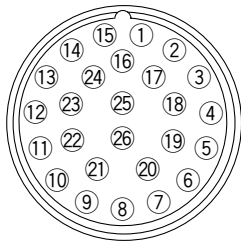
AXT100 – MC26 – □

Lead Wire Length

| Part no. | L dimension |
|-----------------|-------------|
| AXT100-MC26-015 | 1.5 m |
| AXT100-MC26-030 | 3 m |
| AXT100-MC26-050 | 5 m |



Plug terminal no.
(arrangement as seen from lead wire side)



Circular Connector Cable Assembly Terminal No.

| Terminal no. | Lead wire color | Dot marking |
|--------------|-----------------|-------------|
| ① | Black | None |
| ② | Brown | None |
| ③ | Red | None |
| ④ | Orange | None |
| ⑤ | Yellow | None |
| ⑥ | Pink | None |
| ⑦ | Blue | None |
| ⑧ | Purple | White |
| ⑨ | Gray | Black |
| ⑩ | White | Black |
| ⑪ | White | Red |
| ⑫ | Yellow | Red |
| ⑬ | Orange | Red |
| ⑭ | Yellow | Black |
| ⑮ | Pink | Black |
| ⑯ | Blue | White |
| ⑰ | Purple | None |
| ⑱ | Gray | None |
| ⑲ | Orange | Black |
| ⑳ | Red | White |
| ㉑ | Brown | White |
| ㉒ | Pink | Red |
| ㉓ | Gray | Red |
| ㉔ | Black | White |
| ㉕ | White | None |

Note) Terminal no. ㉖ is connected to ㉕ inside the connector.

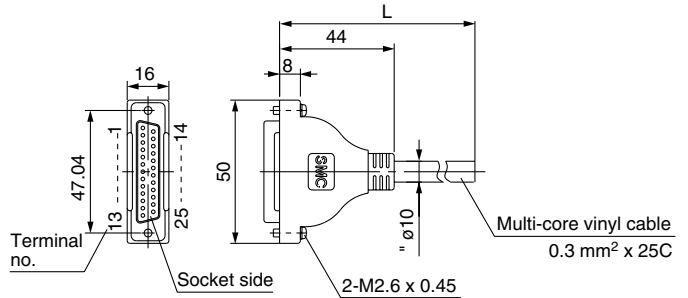
■ D-sub connector/Cable assembly (25 pins)

AXT100 – DS25 – □

Lead Wire Length

| Part no. | L dimension |
|-----------------|-------------|
| AXT100-DS25-015 | 1.5 m |
| AXT100-DS25-030 | 3 m |
| AXT100-DS25-050 | 5 m |

When a commercially available connector is required, use a 25 pin female connector conforming to MIL-C24308.



D-sub Connector Cable Assembly Terminal No.

| Terminal no. | Lead wire color | Dot marking |
|--------------|-----------------|-------------|
| ① | Black | None |
| ② | Brown | None |
| ③ | Red | None |
| ④ | Orange | None |
| ⑤ | Yellow | None |
| ⑥ | Pink | None |
| ⑦ | Blue | None |
| ⑧ | Purple | White |
| ⑨ | Gray | Black |
| ⑩ | White | Black |
| ⑪ | White | Red |
| ⑫ | Yellow | Red |
| ⑬ | Orange | Red |
| ⑭ | Yellow | Black |
| ⑮ | Pink | Black |
| ⑯ | Blue | White |
| ⑰ | Purple | None |
| ⑱ | Gray | None |
| ⑲ | Orange | Black |
| ⑳ | Red | White |
| ㉑ | Brown | White |
| ㉒ | Pink | Red |
| ㉓ | Gray | Red |
| ㉔ | Black | White |
| ㉕ | White | None |

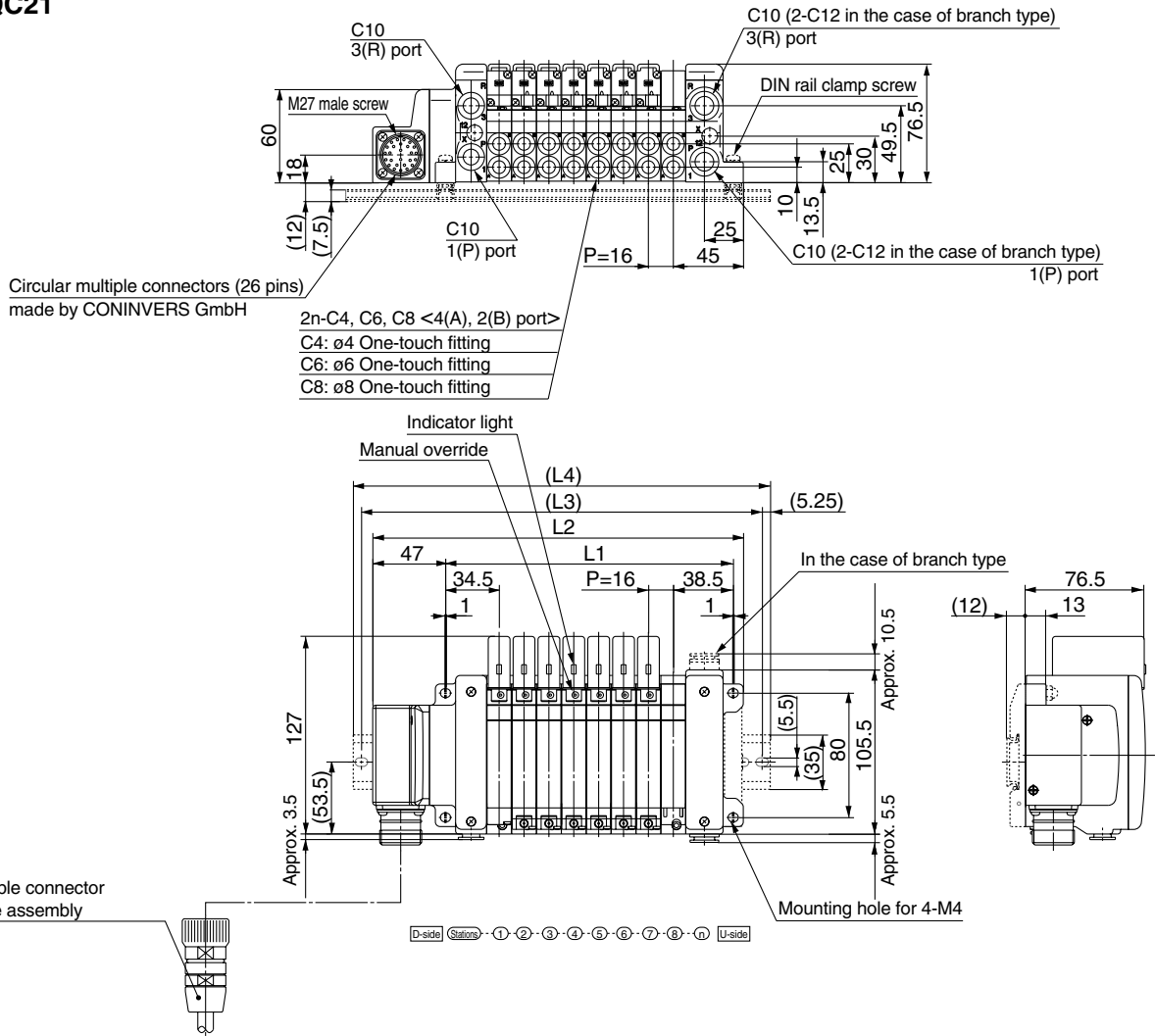
Circular Connector, D-sub Connector Cable Assembly Electric Characteristics

| Item | Characteristics |
|-----------------------------------|-----------------|
| Conductor resistance W/km, 20°C | 65 or less |
| Withstand voltage VAC, 1 min. | 1000 |
| Insulation resistance, M/km, 20°C | 5 or less |

Note) The minimum inside bending radius for each cable is 20 mm.

M VQC1000/2000/4000
Kit (Multiple connector kit) **IP67 compliant**

VV5QC21

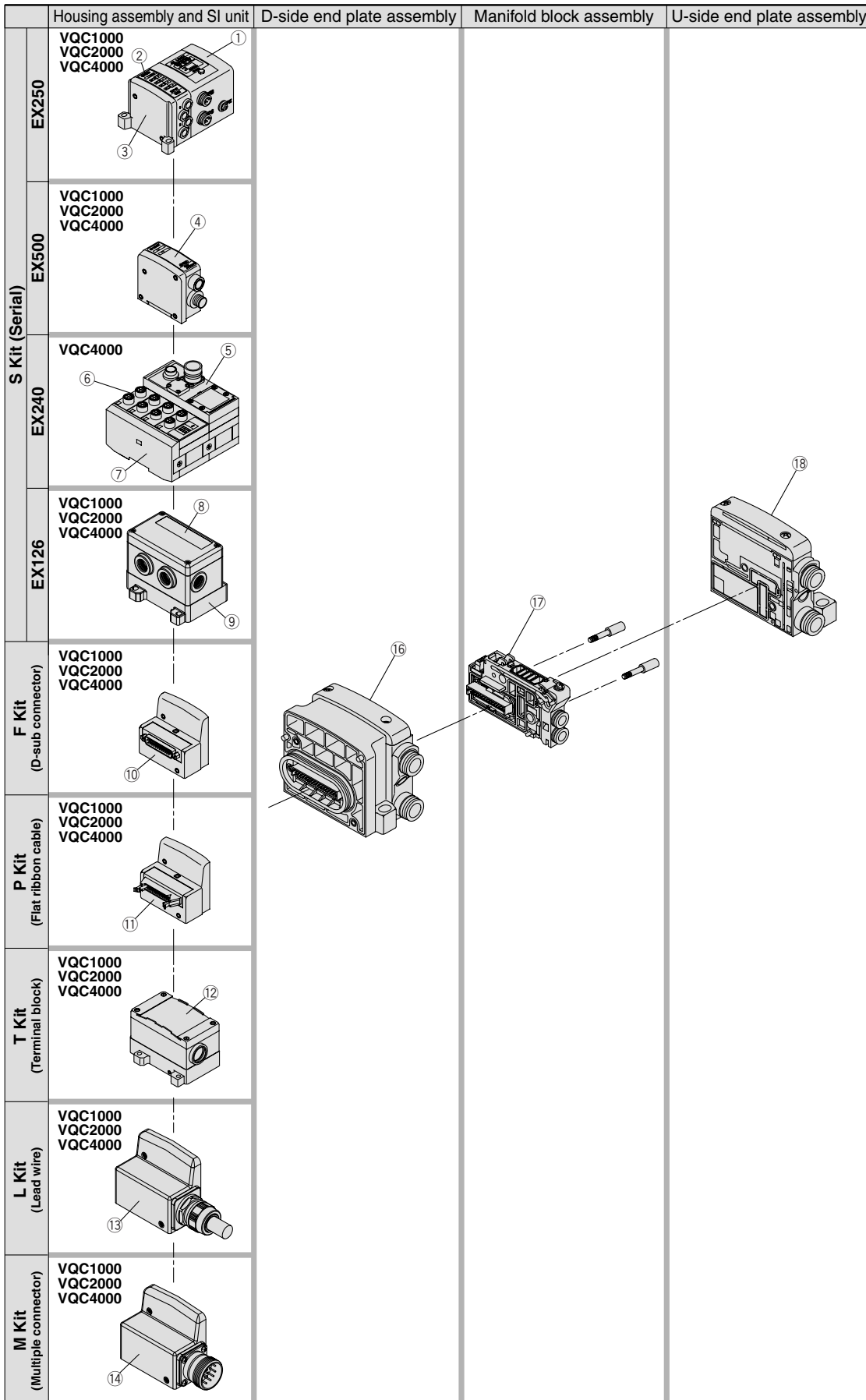


Formulas
 $L1 = 16n + 57$ (Maximum 24 single wiring stations)
 $L2 = 16n + 110.5$

| L \ n | n: Stations | | | | | | | | | | | | | | | | | | | | | | | |
|-------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| L1 | 73 | 89 | 105 | 121 | 137 | 153 | 169 | 185 | 201 | 217 | 233 | 249 | 265 | 281 | 297 | 313 | 329 | 345 | 361 | 377 | 393 | 409 | 425 | 441 |
| L2 | 126.5 | 142.5 | 158.5 | 174.5 | 190.5 | 206.5 | 222.5 | 238.5 | 254.5 | 270.5 | 286.5 | 302.5 | 318.5 | 334.5 | 350.5 | 366.5 | 382.5 | 398.5 | 414.5 | 430.5 | 446.5 | 462.5 | 478.5 | 494.5 |
| L3 | 150 | 162.5 | 187.5 | 200 | 212.5 | 237.5 | 250 | 262.5 | 275 | 300 | 312.5 | 325 | 350 | 362.5 | 375 | 387.5 | 412.5 | 425 | 437.5 | 450 | 475 | 487.5 | 500 | 525 |
| L4 | 160.5 | 173 | 198 | 210.5 | 223 | 248 | 260.5 | 273 | 285.5 | 310.5 | 323 | 335.5 | 360.5 | 373 | 385.5 | 398 | 423 | 435.5 | 448 | 460.5 | 485.5 | 498 | 510.5 | 535.5 |

* With signal cut block, L4 is obtained by adding approximately 30 mm to L2.

Exploded View of Manifold



Manifold Assembly Part No.

Housing Assembly and SI Unit/Input Block

| No. | Description | Part no. | Note | Applicable model | | |
|-----|-------------------------------------|------------------|---------------------------------------|------------------|---------|---------|
| | | | | VQC1000 | VQC2000 | VQC4000 |
| ① | SI unit | EX250-SPR1 | PROFIBUS-DP (-COM.) | ● | ● | ● |
| | | EX250-SAS□ | AS-i (-COM.) | ● | ● | ● |
| | | EX250-SMJ | CC-LINK (+COM.) | ● | ● | ● |
| | | EX250-SDN1 | DeviceNet (-COM.) | ● | ● | ● |
| | | EX250-SCA1 | CANopen (-COM.) | ● | ● | ● |
| ② | Input block | EX250-IE1 | M12, 2 inputs | ● | ● | ● |
| | | EX250-IE2 | M12, 4 inputs | ● | ● | ● |
| | | EX250-IE3 | M8, 4 inputs | ● | ● | ● |
| ③ | End plate assembly | EX250-EA1 | Standard | ● | ● | ● |
| | | EX250-EA2 | DIN rail mounting | ● | ● | — |
| ④ | SI unit | EX500-Q001 | DeviceNet (+COM.) | ● | ● | ● |
| | | EX500-Q001-X1 | Remote I/O (+COM.) | ● | ● | ● |
| | | EX500-Q101 | DeviceNet / PROFIBUS-DP (-COM.) | ● | ● | ● |
| | | EX500-Q101-X1 | Remote I/O (-COM.) | ● | ● | ● |
| ⑤ | SI unit | EX240-SDN2 | DeviceNet (+COM.) | — | — | ● |
| | | EX240-SPR1 | PROFIBUS-DP (-COM.) | — | — | ● |
| ⑥ | Input block | EX240-IE1 | M12, 8 inputs | — | — | ● |
| | | EX240-EA2 | For manifold with input block | — | — | ● |
| ⑦ | End cover assembly | EX240-EA4 | For manifold without input block | — | — | ● |
| | | EX126D-SMJ1 | CC-LINK (+COM.) | ● | ● | ● |
| ⑧ | Terminal plate | VVQC1000-74A-2 | For EX126 SI unit mounting | ● | ● | ● |
| ⑩ | D-sub connector housing assembly | VVQC1000-F25-1 | F kit, 25 pins | ● | ● | ● |
| ⑪ | Flat ribbon cable housing assembly | VVQC1000-P26-1 | P kit, 26 pins | ● | ● | ● |
| | | VVQC1000-P20-1 | P kit, 20 pins | ● | ● | ● |
| ⑫ | Terminal block box housing assembly | VVQC1000-T0-1 | T kit | ● | ● | ● |
| ⑬ | Lead wire housing assembly | VVQC1000-L25-0-1 | L kit with 0.6 m lead wire | ● | ● | ● |
| | | VVQC1000-L25-1-1 | L kit with 1.5 m lead wire | ● | ● | ● |
| | | VVQC1000-L25-2-1 | L kit with 3.0 m lead wire | ● | ● | ● |
| ⑭ | Multiple connector housing assembly | VVQC1000-M26-1 | M kit 26 pins | ● | ● | ● |
| ⑮ | Signal cut block | EX9-SC1-8 | Double wiring of 1st to 8th stations | ● | ● | ● |
| | | EX9-SC2-4 | Double wiring of 9th to 12th stations | ● | ● | ● |

VQC

SQ

VQ0

VQ4

VQ5

VQZ

VQD

D-side end plate assembly

⑮ D-side end plate assembly part no.

VQC1000/2000

VVQC 1 000-3A-1-C8

| | | |
|---------------|------------------|--|
| Series | Port size | Option |
| 1 VQC1000 | C8 | Nil Centralized exhaust |
| 2 VQC2000 | C10 | R External pilot |
| | N9 | S Direct exhaust outlet with built-in silencer |
| | N11 | |

VQC4000

VVQC4000-3A-1

| | |
|--------------------------|--------------------|
| Kit type | Thread type |
| 1 S (EX240) kit | Nil Rc |
| 2 F, P, T, S (EX250) kit | F G |
| 3 L, M, S (EX500) kit | T NPT/NPTF |

U-side end plate assembly

⑯ U-side end plate assembly part no.

VQC1000/2000

VVQC 1 000-2A-1-C8

| | | |
|---------------|------------------|--|
| Series | Port size | Option |
| 1 VQC1000 | C8 | Nil Centralized exhaust |
| 2 VQC2000 | C10 | R External pilot |
| | C12 | S Direct exhaust outlet with built-in silencer |
| | N9 | |
| | N11 | |
| | N13 | |

Supply/Exhaust port entry direction

| | |
|----------|--------------------|
| 1 | Cylinder port side |
| 2 (Note) | Branch type |

Note) VQC2000 only

VQC4000

VVQC4000-2A-1

| |
|--------------------|
| Thread type |
| Nil Rc |
| F G |
| T NPT/NPTF |

Manifold block assembly

⑰ Manifold block assembly part no.

VVQC 1 000-1A-D-C6

| | |
|---|---|
| Wiring specifications | Option |
| D Double wiring | Nil None |
| S Single wiring | B (Note) With back pressure check valve |
| 0 (Note) No wiring | Note) Except VQC4000. |
| Note) For VQC1000/2000 only. | Thread type (Note) |
| Series | Nil Rc |
| 1 VQC1000 | F G |
| 2 VQC2000 | T NPT/NPTF |
| 4 VQC4000 | Note) VQC 4000 thread port only |
| Note) Tie-rods (2 pcs.) for additional stations included. | |

Port size

| Symbol | Port size | VQC1000 | VQC2000 | VQC4000 |
|--------|----------------------------|---------|---------|---------|
| C3 | For ø3.2 One-touch fitting | ● | | |
| C4 | For ø4 One-touch fitting | ● | ● | |
| C6 | For ø6 | ● | ● | |
| C8 | For ø8 | | ● | ● |
| C10 | For ø10 | | | ● |
| C12 | For ø12 | | | ● |
| N1 | For ø1/8" | ● | | |
| N3 | For ø5/32" | ● | ● | |
| N7 | For ø1/4" | ● | ● | ● |
| N9 | For ø5/16" | | ● | ● |
| N11 | For ø3/8" | | | ● |
| M5 | For M5 thread | ● | | |
| O2 | Rc 1/4" | | | ● |
| O3 | Rc 3/8" | | | ● |
| B | Rc 1/4" bottom ported | | | ● |
| C0 | Without One-touch fitting | ● | ● | ● |