Ecological pneumatic valves.

Ecological, reliable and flexible.
Small, high performance 3, 5 port pneumatic valve 4G series (metal base type),

Ecological Grade up

No painting (MN4G series)

No particle occurrence caused by pealed paint.

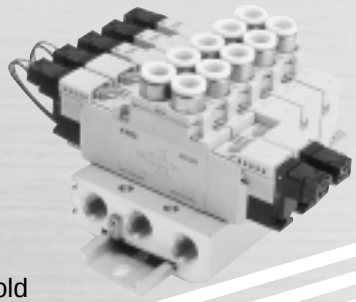
Material name is displayed (MN4G series).

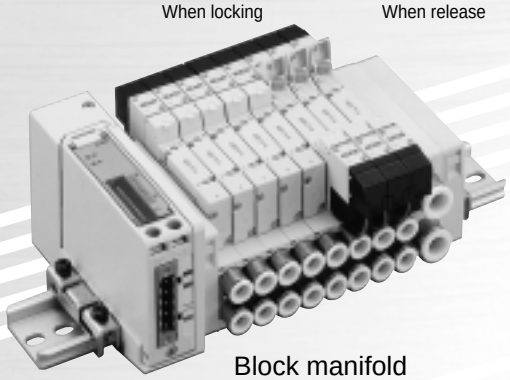
Considering recycle etc., materials names are stamped on main parts.

Safety Grade up

Miss-operation prevention mechanism provided for connection key (MN4G series)

Connection key stored in block of cover.
Closing cover automatically interlocks connection keys.





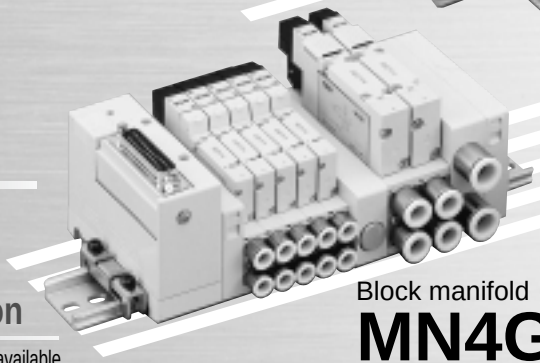
Metal base manifold
M4G$^{A}_{B}$1/2/3 Series

Block manifold
MN4G$^{A}_{B}$1/2

Flexibility Grade up

Flexible block construction

Mix manifold of 4G1/2 and multi-pressure use are available.



Block manifold
MN4G$^{A}_{B}$X12

Flexible increase/decrease of station No.

Easy operation Grade up

For serial transmission, slot in and small size slave unit OPP4 is used (MN4G series).

Footprint dramatically reduced.

Body porting and sub base porting types are available.

TAG name plate is available (MN4G series).

For descriptions of solenoid valve type, circuit etc.

10mm small size with high performance

4G Series

Series	Width	C (dm³/(s·bar))
4G1	10mm	0.7
4G2	15mm	1.7
4G3	18mm	2.6

(Flow characteristics C when check valve integrated)

MN4G Series

Series	Width	C (dm³/(s·bar))
MN4G1	10.5mm	0.72
MN4G2	16mm	1.7

(Flow characteristics C when check valve integrated)

MN4G series (block manifold type).

Reliability Grade up

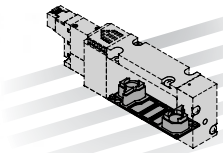
New sliding structure accumulating valve technology results in remarkable advance in service life, reliability and response time.

Protective cover provided

Miss-operation by external force etc. prevented. Once locked, protective cover is never closed. PAT.

Check valve integrated

Preventing back pressure of single acting cylinder. Cylinder malfunction is prevented. Check valve is incorporated in pilot and main exhaust ports. PAT.



Air supplying port filter provided

Foreign matter entry is prevented. Also provided to cylinder port (option).

Response time 12ms ± 2ms

(CKD comparison for 4G1 series)

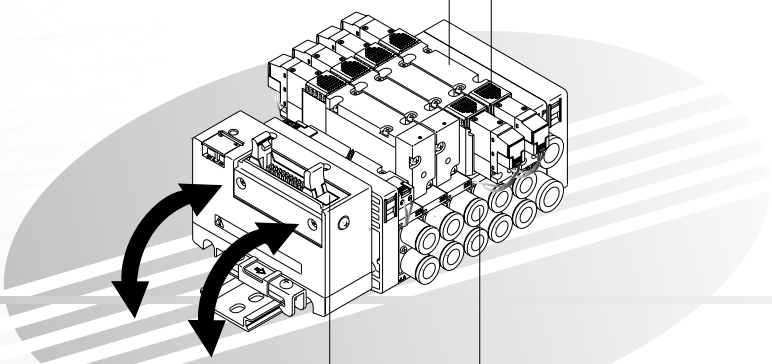
New sliding structure results in remarkable advance in service life, reliability and response time.

Service life 60 millions cycles or over

Over 60 millions cycles guaranteed by strict endurance test according to CKD standard. (5 port valve data at clean air 0.5MPa)

Tool not required manual override

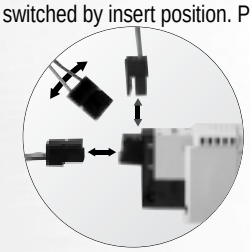
Easy manual operation by a finger. Locking/non-locking common type.



Easily replaced push in joint

Wiring connector upward/lateral common

Upward and lateral connector can be switched by insert position. PAT.



Reduced wiring connector upward/lateral type

Metal base
4GA/4GB Series

Block manifold
MN4GA/MN4GB Series

Master valve
4GA/4GB Series

Safety precautions

Always read this section before starting use.
Refer to Intro 63 for general precautions for valves.

3, 5 port pilot operated valve 4G$^{A}_{B}$/MN4G$^{A}_{B}$ Series

Design & Selection

1. Surge suppressor

CAUTION

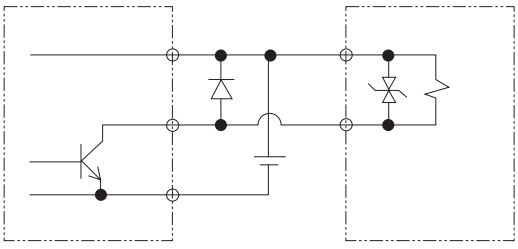
■ The surge suppressor enclosed with the solenoid valve is used to protect the output contact for that solenoid valve drive. There is no protection for the other peripheral devices, and devices could be damaged or malfunction by the surge. Surge generated by other devices could be absorbed and cause damage such as burning. Care must be taken for points below.

● The surge suppressor functions to limit a solenoid valve surge voltage, which can reach several hundred V, to a low voltage level that the output contact can withstand. Depending on the output circuit used, this may be insufficient and could result in damage or malfunction. Check whether the surge suppressor can be used by the surge voltage limit of the solenoid valve in use, the output device's withstand pressure and circuit structure, and by the degree of return delay time. If necessary, provide other surge measures. The 4G Series solenoid valve with surge suppressor can suppress the reverse voltage surge generated at OFF to the following levels.

Rated voltage	Reverse voltage value when OFF
12 VDC	27 V
24 VDC	47 V

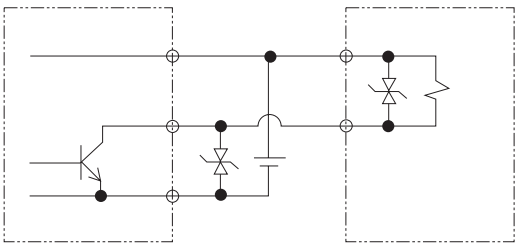
● When using the NPN type output unit, the voltage given in the upper table and a surge voltage equivalent to the power voltage could be applied on the output transistor. Increase the contact protection circuits in this case.

(Example of output transistor protective circuit installation 1)



Programmable controller side — Solenoid valve side

(Example of output transistor protective circuit installation 2)



Programmable controller side — Solenoid valve side

● If another device or solenoid valve is connected in parallel to the solenoid valve, the inverse voltage surge generated when the valve is OFF would apply to those devices. Even when using the solenoid valve with surge suppressor for 24 VDC, the surge voltage may reach minus several ten V depending on the model. This inverse polarity voltage could damage or cause the other devices connected in parallel to malfunction. Avoid parallel connection of devices suspected of reversing polarity voltages, e.g., LED indicators. When driving several solenoid valves in parallel, the surge from other solenoid valves could enter the surge suppressor of one solenoid valve with a surge suppressor. Depending on the current value, that surge suppressor could burn. When driving several solenoid valves with surge suppressors in parallel, surge current could concentrate at the surge suppressor with the lowest limit voltage and cause similar burning. Even if the solenoid valve type is the same, the surge suppressor's limit voltage can be inconsistent, and in the worst case, could result in burning. Avoid parallel drive of several solenoid valves.

● The surge suppressor incorporated in the solenoid valve will often be short-circuited if it is damaged by an excessive voltage or excessive current from the other solenoid valves. If the surge suppressor fails, if a large current flows when output is on, the output circuit or solenoid valve could be damaged or ignite. Do not keep power on in a faulty state. Provide an overcurrent protection circuit on the power or drive circuit or use a power supply with overcurrent protection so that a large current does not flow continuously.

2. 100 VAC specifications

CAUTION

■ For 100 VAC, all wave rectified circuit is incorporated. When using SSR for ON/OFF solenoid valve, return failure may be caused depending on type of solenoid valve. Take care when selecting the SSR. (Please consult with relay or PLC manufacturer.)

3. Used in combination with low-sliding cylinder

■ Malfunctions could occur because of the exhaust pressure, so consult with CKD.

Installation & Adjustment

1. External pilot (K) piping port

⚠ CAUTION

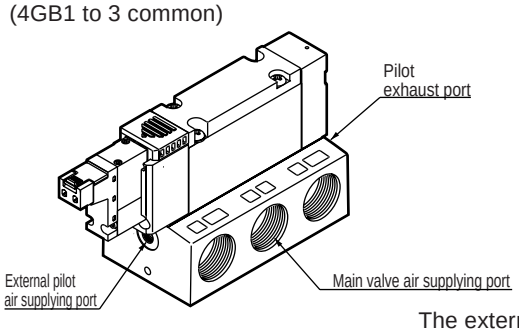
■ Metal base 4G A B Series

- For the external pilot (K) type, pilot air supply ports are individually provided. Both port sizes of supply/exhaust air are M5 thread. Be sure to check port positions when piping. Malfunctions could occur if the piping is incorrect.

Port indication

Applications		Indication (ISO standards)
Pilot air	Air supplying port	12/14
	Exhaust port	82/84

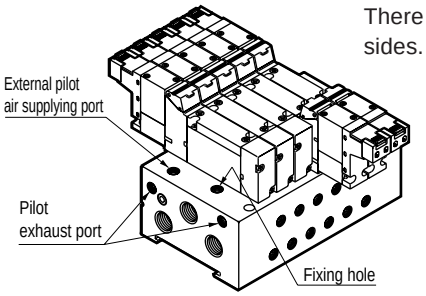
Base piping - discrete valve
(4GB1 to 3 common)



The external pilot air supply port is on the left side facing the main valve air supply port.

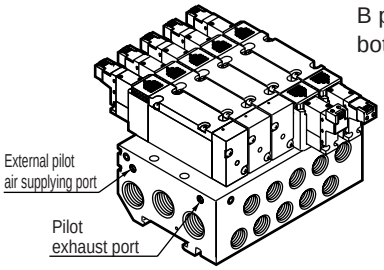
Manifold
M4G1

The external pilot supply is on the top of the manifold. There are two on both sides.



M4G2/3

The external pilot supply is on the far side from the A/B ports. There are two on both ends.



■ Block manifold MN4G A B Series

- For the external pilot (K) type, pilot air supply ports are individually provided. The port size of pilot air is ø6 push in joint. Improper piping may cause malfunctions. Malfunctions could occur if the piping is incorrect.

Port indication

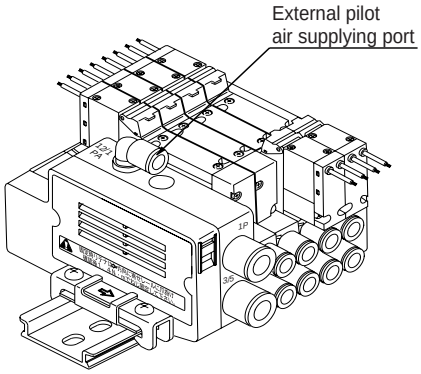
Applications		Indication (ISO standards)
Pilot air	Air supplying port	12/14

* The A/B ports and the R port cannot be pressurized.

■ Note supply pressure for the type with two 3 port valves.

- The valving element of the type with two 3 port valves is operated with the main (P port) supply pressure.
  (1) Check that the main pressure (P port) is not higher than the pilot pressure (PA port).
  (2) Check that the main pressure (P port) does not drop below 0.2 MPa.

MN4G1



The external pilot supply port is the ø6 push-in joint on the top of the supply/exhaust block.

Installation & Adjustment

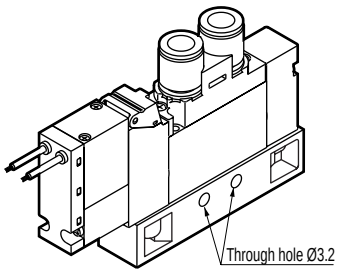
2. How to install body porting (A) discrete valve

⚠ CAUTION

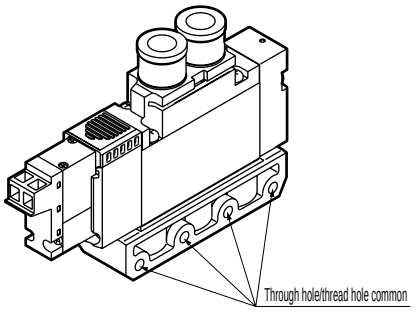
■ For direct installation

- For body porting discrete valve 4GA2/3 series, (a) through hole, or (b) female thread hole is available for installation. When using thread hole, observe tightening torque.

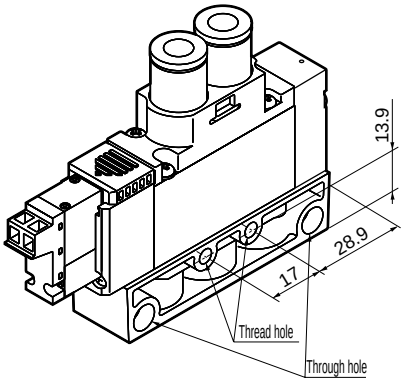
4GA1 Series
(a) 2 through holes



4GA2 Series
(a) 4 through hole, (b) 4 thread hole common

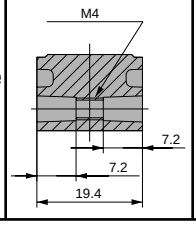
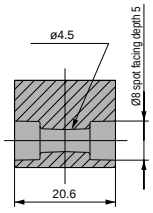
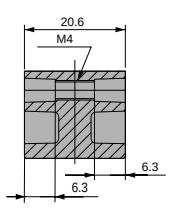


4GA3 Series
(a) 2 through hole, (b) 2 female thread



Tightening torque 0.7 to 1.2 N·m

Installation hole shape

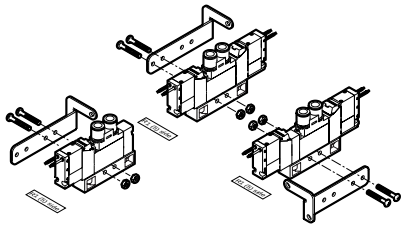
	4GA2	4GA3	
	Common for (a), (b)	(a) through hole	(b) thread hole
Installation hole sectional view			

■ When installation with mounting plate (P)

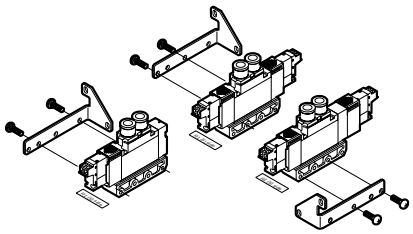
- For mounting plate (P) of body porting discrete valve, installation method may differ depending on single, double or 3-position. Incorrect installation may cause failures.

■ How to install mounting plate (P)

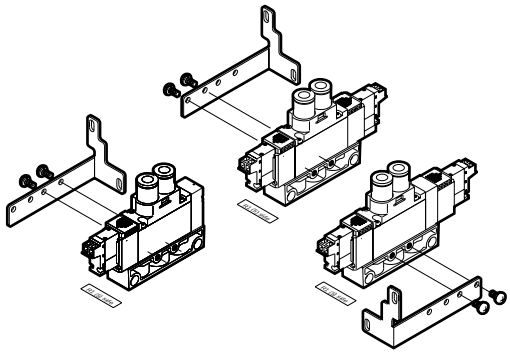
4GA1 Series



4GA2 Series



4GA3 Series



Installation (P) kit

	Kit model no.	Set part
4GA1	4G1-MOUNT-PLATE-KIT	Mounting plate, 2 set screws, 2 nuts
4GA2	4G2-MOUNT-PLATE-KIT	Mounting plate, 2 set screws
4GA3	4G3-MOUNT-PLATE-KIT	Mounting plate, 2 set screws

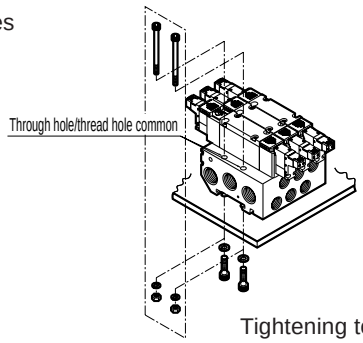
3. How to install manifold (Metal base 4G A B Series)

⚠ CAUTION

■ For direct installation

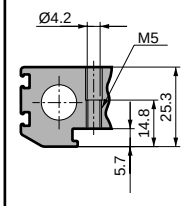
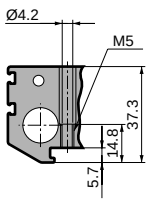
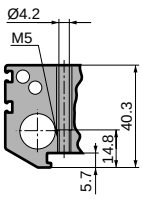
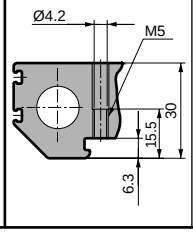
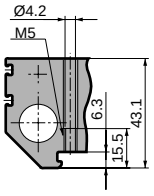
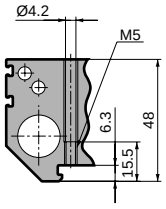
- The M4G2/3 Series can be installed by tightening the upper end of the manifold base with through bolts, or by tightening with bolts from the back side. When using the female threads shown below, check the thread depth, select a mounting bolt that is screwed in by 10 threads or more, and note the tightening torque. The screw could be damaged if not installed correctly.

How to install
M4G2/3 Series



Tightening torque
1 to 1.5 N·m

Installation hole shape (sectional view)

	Standard, manifold (internal pilot)		External pilot
	M4GA (body porting)	M4GB (sub-base porting)	M4G-K
M4G2			
M4G3			

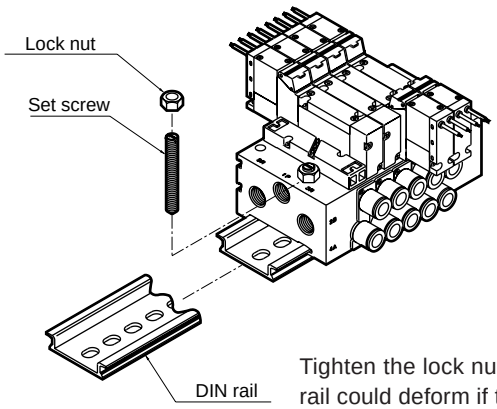
■ Installing with DIN rail

- With the M4G Series, the direct installation specification manifold can be changed to DIN rail installation specifications. Incorrect installation could cause the manifold to fall off or be damaged. If the manifold weighs more than 1 kg, or when using in an environment with vibration or impact, fix the DIN rail onto the surface at 50 to 100 mm spacing, and confirm that there is no problem with installation before starting operation. The weight must be calculated based on model specifications. (Caution: Only the M4GB1 (page 178) has dedicated bases for the direct mounting type and DIN rail mounting type. The specifications cannot be changed from a direct mounting type to a DIN rail mounting type, but the DIN rail mounting type can be installed directly.)
  Up to 16 stations can be installed with the DIN rail.

■ How to install DIN rail

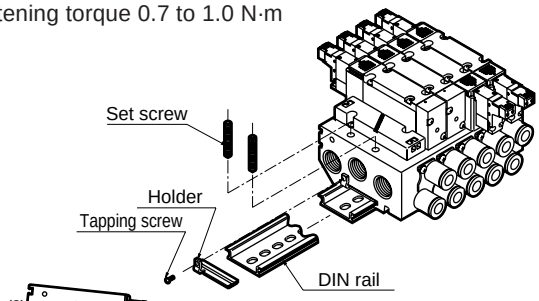
- M4G1 Series (Caution: Only the M4GB1 (page 178) has dedicated bases for the direct mounting type and DIN rail mounting type. The specifications cannot be changed from a direct mounting type to a DIN rail mounting type, but the DIN rail mounting type can be installed directly.

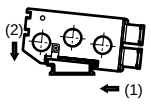
Tightening torque 0.3 to 0.5 N·m

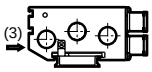


Tighten the lock nut. The DIN rail could deform if the tightening torque is too high.

M4G2 Series
M4G3 Series
Tightening torque 0.7 to 1.0 N·m







1. Mount the holder
   (The tapping screw is tightened to prevent dropping off.)
2. Temporarily tighten set screw
3. Set the jaws onto the DIN rail in the order of (1) and (2).
4. Press in the direction of (3).
5. Tighten the set screw.

DIN rail kit

	Model no.	
M4G1	4GA1-BAA length - Option D	DIN rail, two set screws, two lock nuts
	4GB1-BAA length - Option D	
M4G2	4GA2-BAA length - Option D	DIN rail, two holders, two tapping screws, four set screws
	4GB2-BAA length - Option D	
M4G3	4GA3-BAA length - Option D	
	4GB3-BAA length - Option D	

When DIN rail is not required, designate length as "0".
When using manifold for external pilot base, designate Option "K".

Refer to the outline dimensions of the manifold in use and the DIN rail length reference chart (page 325) and set the length of the DIN rail accordingly.

Installation & Adjustment

4. How to install manifold (Block manifold)

⚠ CAUTION

■ Mounting attitude

- The block manifold is installed on the DIN rail, so if the manifold weighs more than 1 kg, or if vibration or impact is present, fix the DIN rail onto the installation surface at a 50 to 100 mm interval and confirm that there are no problems with the mounting attitude. No restrictions apply to the installation direction or mounting attitude. However, resonance resulting from vibration could cause the set screw to loosen and the manifold to drop off. Note this during operation.
- Removing and installing the manifold

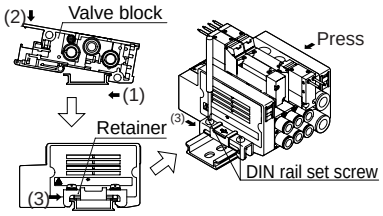
  Removal

  Loosen the DIN rail fixing screws (total 4 screws: 2 each on left and right).

  Installation

  1. Set the jaws onto the DIN rail in the order of (1) and (2).
  2. Press the retainer in direction (3).
  3. Tighten the DIN rail fixing screws while pressing down so that there is no gap between the blocks. (Recommended tightening torque 1.2 to 1.6 N·m)

* Confirm that the retainer claws are properly set as improper setting could cause air leaks or the product to fall off.



5. Lead wiring

⚠ CAUTION

■ Lead standards differ with the type of wire connection. Connect wires appropriately.

The leads used with the 4G Series are shown below.

Electric connection symbol	Descriptions	Conductor size	Conductor cross-section areas	Isolator O.D.	Sheath O.D.
Blank	Grommet lead wire	AWG#26	0.13 or equivalent	1.35	-
E*	E-connector (with lead wire)	AWG#26	0.13 or equivalent	1.35	-
E*J	EJ-connector	AWG#25	0.2 or equivalent	1.14	3.7

When installing a manifold and connecting wires, check that leads do not apply tension to the solenoid valve coil.

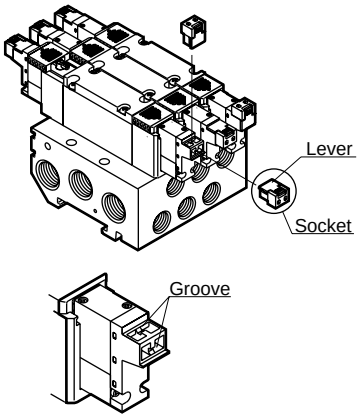
6. How to use E-connector

⚠ CAUTION

■ The E-connector is a top/side common connector to which the sockets can be connected to either the top or side directions. The socket assembly is enclosed with the valve. Select the connection direction based on installation.

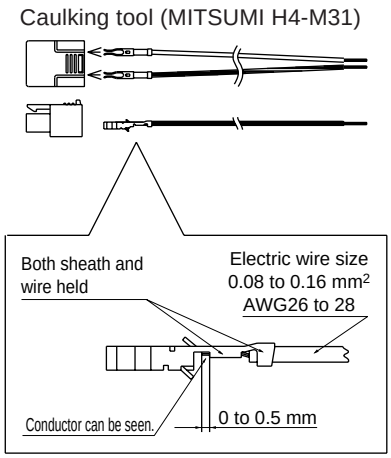
■ How to mount/dismount socket

- When installing the socket, hold the lever and socket with your fingers and insert straight into the square window on the connector. Align the lever with the groove on the connector and lock. When installing from the top, face the socket so that the lever is in front. When installing from the side, face the socket so that the lever is on the top.
- When removing the socket, press down the lever to release jaws from the groove, then pull straight out.



■ How to connect lead wire

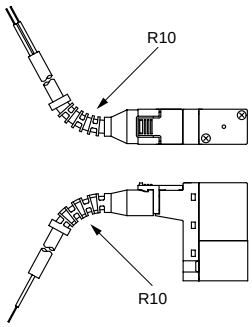
- Strip 3 mm of the lead end, arrange the ends of the core wires and insert them into the contact terminal. Crimp with a crimping terminal. Crimp both the sheath and wire, and check that 0 to 0.5 mm of the core wire end is visible.
- After crimping, face the contact terminal as shown below, and insert into the square window on the socket. The terminal locks when it is inserted into the back. After insertion, tug lightly on the terminal to check that it is locked.



7. How to use E*J-connector

⚠ CAUTION

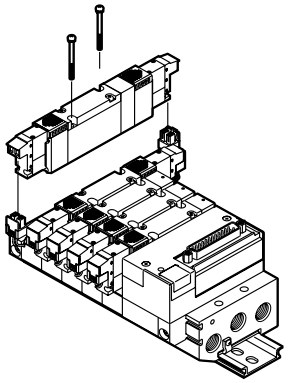
■ Dimensions below apply as the lead bending limit.



8. How to use A-connector

⚠ CAUTION

■ The A-connector is dedicated for the reduced wiring manifold, and is connected from the bottom. The same precaution as when using the E-connector is required when installing and removing the socket.



9. DIN terminal box

⚠ WARNING

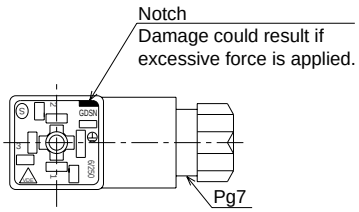
■ Turn power OFF before disassembling or assembling the terminal box. There is a risk of electric shock.

⚠ CAUTION

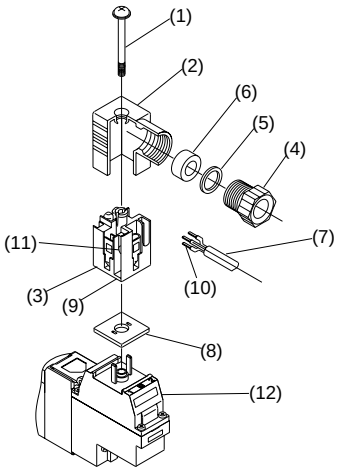
■ Disassembling

- Loosen the screw (1), and pull the cover (2) in the direction of screw (1). The connector will come off the coil assembly (12).
- Pull the screw (1) out of the cover (2).
- There is a notch (9) (next to GDSN mark) on the bottom of the terminal block (3). Insert a small flat-tip screwdriver between the housing (2) and terminal block (3), and twist it. The terminal block (3) will come off the cover (2). (Refer to Fig. 1.) Take care not to apply excessive force as there is a risk of damage.
- Remove the cable gland (4), and remove the washer (5) and rubber packing (6).

Fig.1



Deal drawing



■ Wiring

- Wiring preparation
  - The cable (7) applicable outline dimensions are VCTF2 (3) core (ø3.5 to 7) specified in JISC3306.
  - Strip 10 mm of the cable's lead sheath.
  - Either twisted wires or single wire can be connected.
  - When using twisted wires, avoid connecting soldered wires.
  - When using a crimping sleeve 10 on the end of the twisted wire, use the Japan Weidmuller H0.5/6 (0.3 to 0.5 mm^2), H0.75/6 (0.75 mm^2) or equivalent product. The crimping sleeve must be prepared by the user.
- Wiring
  - Pass the cable gland (4), washer (5) and rubber packing (6) in order through the cable (7), and insert into cover (2).
  - Connect to terminals 1 and 2. There is no polarity.
  - Recommended tightening torque is 0.2 to 0.25 N·m.

Installation & Adjustment

■ Assembly

- Set the connected terminal block (3) into the cover (2). (Press in until a click is heard.)

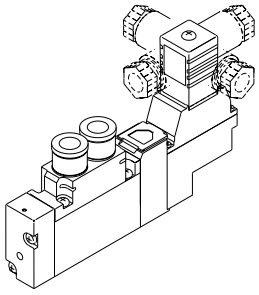
* The terminal block can be set in four directions. (Fig. 2)

- Set the rubber packaging (6) and washer (5) in order into the cover (2) cable lead-in port, and then securely tighten the cable gland (4).

  Remarks: The reference tightening torque for the cable gland is 1.0 to 1.5 N·m.
  Check that the cable cannot be pulled off.

- Set the gasket (8) between the bottom of the terminal block (3) and the coil assembly (12) plug, and insert the connector. Insert the screw 1 from the top of the cover (2) and tighten.
  Remarks: Recommended tightening torque of a screw is 0.2 to 0.25 N·m.

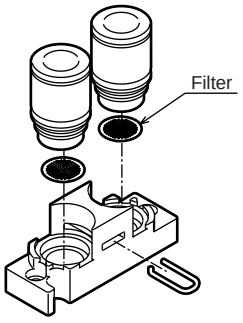
Fig.2



10. Port filter

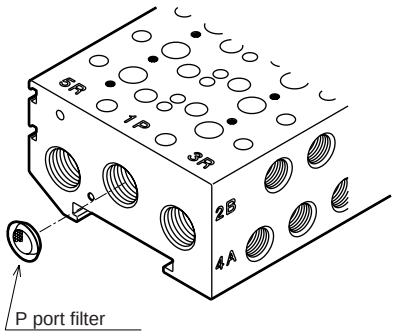
⚠ CAUTION

■ The port filter prevents the entry of foreign matter, and prevents problems from occurring in the valve. This does not improve the quality of the compressed air, so read the Warnings and Precautions on pages 54 to 61, and mount, install and adjust the filter accordingly.
Do not remove or force the port filter.
The filter could deform and result in problems. If contaminants and foreign materials are found on the filter surface, flash lightly, or remove them by tweezers, etc.



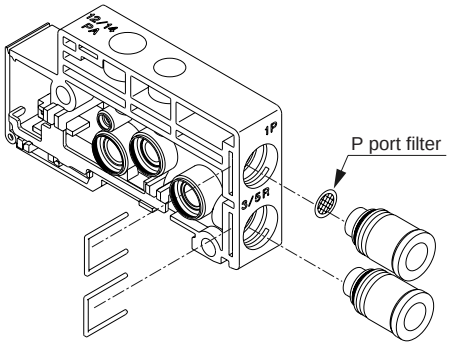
Example of A/B port filter option assembly

M4G Series



Example of integrating P port filter (standard)

MN4G Series



Example of integrating P port filter (standard)

During Use & Maintenance

1. Common

⚠ CAUTION

■ Energizing for a long time could impair solenoid valve performance. Similar caution is required in the following use.

- During intermittent energizing, it takes longer than non-energizing.
- During intermittent energizing, one energizing session exceeds 30 min.

Consider heat dissipation when installing.
Consult with CKD if energizing for a long time.

2. Manual override

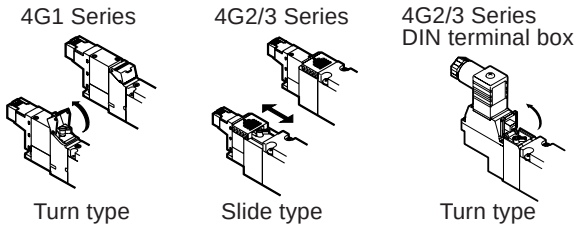
⚠ WARNING

■ 4G series is an internal pilot operated solenoid valve. If air is not supplied to the P port, the main valve will not change even if the manual override is operated.

■ Manual override protective cover is provided as standard. The manual override protective cover is closed when the valve is shipped to protect manual override, which cannot be seen when delivered. Open the protective cover and operate manual override.
Note that the protective cover does not close unless the manual override lock is released.

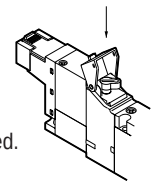
■ Manual override is used for both non-locking and locking. The lock is applied by pressing down and turning manual override. When locking, press down and turn. If manual override is turned without being pressed down, it could be damaged or air could leak.

■ Opening and closing the manual protective cover
Do not excessively force the manual protective cover when opening and closing it. Excessive force could cause faults. (Less than 5 N)

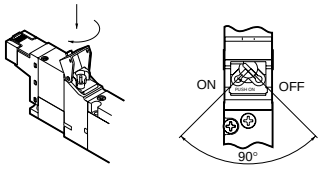


■ How to operate manual override

● For non-locking manual override
Push it to arrow direction until it stops.
Manual override is unlocked when released.



● For locking manual override
Push manual override and turn 90° in the direction of the arrow.
Manual override is not unlocked even when released.



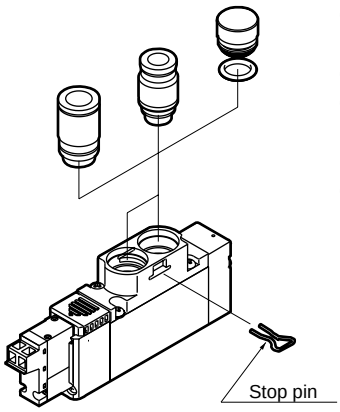
■ When conducting manual operations, make sure that there are no people near the moving cylinder.

3. How to replace cartridge joint

⚠ CAUTION

■ Check procedures before changing the push-in joint size. Improper installation or improper tightening of the set screws may result in air leakage.

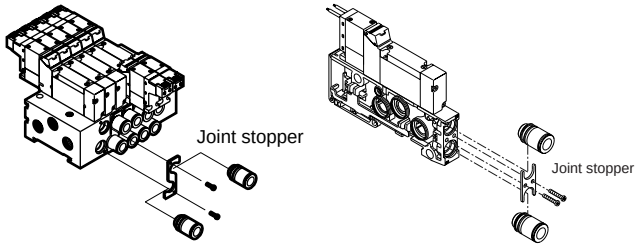
■ Body porting (A) type



(1) Remove the stopper pin with a screwdriver, etc.
(2) Pull out the joint.
(3) Insert the replacement joint vertically until it comes to a stop.
(4) Insert the stopper pin. Pull on the joint and confirm that it is installed.

	Size	Tightening torque (N·m)
4G1	M1.7	0.18 to 0.22
4G2	M2.5	0.25 to 0.30
4G3	M3	0.6 to 0.7

■ Sub-base porting (B) type



(1) Remove the set screw.
(2) Pull the stopper plate and joint out together.
(3) Align the stopper plate with the groove on the replacement joint, and assemble temporarily.
(4) Assemble the stopper plate and joint together, and tighten the set screw. Pull the joint and confirm that it is installed.

Cartridge type push-in joint model no.

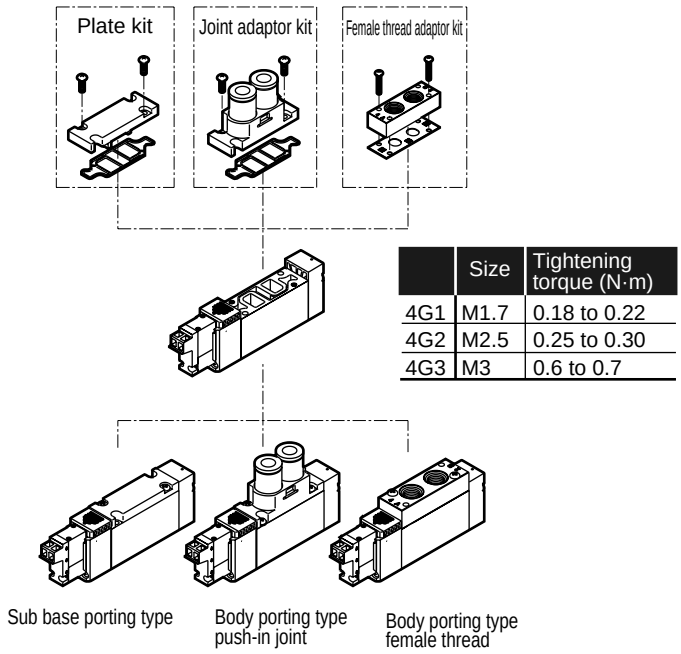
Model	Part name	Model no.
4G1	ø4 axial	4G1-JOINT-C4
	ø6 axial	4G1-JOINT-C6
	ø4 L type	4G1-JOINT-CL4/CLL4
	ø6 L type	4G1-JOINT-CL6/CLL6
	Plug cartridge	4G1-JOINT-CPG
4G2	ø4 axial	4G2-JOINT-C4
	ø6 axial	4G2-JOINT-C6
	ø8 axial	4G2-JOINT-C8
	ø6 L type	4G2-JOINT-CL6/CLL6
	ø8 L type	4G2-JOINT-CL8/CLL8
	Plug cartridge	4G2-JOINT-CPG
4G3	ø6 axial	4G3-JOINT-C6
	ø8 axial	4G3-JOINT-C8
	ø10 axial	4G3-JOINT-C10
	ø8 L type	4G3-JOINT-CL8/CLL8
	ø10 L type	4G3-JOINT-CL10/CLL10
	Plug cartridge	4G3-JOINT-CPG

During Use & Maintenance

4. How to change connecting port specifications

⚠ CAUTION

■ Air leaks, etc., could occur if the set screw is not tightened sufficiently after replacing the plate or joint adapter installed on the body, changing between the body port specifications and base piping specifications, or changing between the body port type push-in joint specifications and female thread specifications. Check that the tightening torque is correct.



	Size	Tightening torque (N·m)
4G1	M1.7	0.18 to 0.22
4G2	M2.5	0.25 to 0.30
4G3	M3	0.6 to 0.7

Plate kit

Model	Kit model no.	Set part
4G1	4G1-PLATE-KIT	Plate, gasket, 2 set screws
4G2	4G2-PLATE-KIT	Plate, gasket, 2 set screws
4G3	4G3-PLATE-KIT	Plate, gasket, 2 set screws

Joint adaptor kit

Model	Part name		Kit model no.	Set part
4G1	ø4 joint adaptor kit	For N.C.	4G1-JNT-ADAPTOR-KIT-C4NC-option	Joint adaptor
		For N.O.	4G1-JNT-ADAPTOR-KIT-C4NO-option	2 push-in joints (N.C., N.O.: 1)
			4G1-JNT-ADAPTOR-KIT-C4-option	(N.C., N.O.: 1 plug cartridge)
	ø6 joint adaptor kit	For N.C.	4G1-JNT-ADAPTOR-KIT-C6NC-option	Gasket
		For N.O.	4G1-JNT-ADAPTOR-KIT-C6NO-option	Stop pin
			4G1-JNT-ADAPTOR-KIT-C6-option	2 set screws
4G2	ø6 joint adaptor kit	For N.C.	4G2-JNT-ADAPTOR-KIT-C6NC-option	Joint adaptor
		For N.O.	4G2-JNT-ADAPTOR-KIT-C6NO-option	2 push-in joints (N.C., N.O.: 1)
			4G2-JNT-ADAPTOR-KIT-C6-option	(N.C., N.O.: 1 plug cartridge)
	ø8 joint adaptor kit	For N.C.	4G2-JNT-ADAPTOR-KIT-C8NC-option	Gasket
		For N.O.	4G2-JNT-ADAPTOR-KIT-C8NO-option	Stop pin
			4G2-JNT-ADAPTOR-KIT-C8-option	2 set screws
4G3	ø8 joint adaptor kit	For N.C.	4G3-JNT-ADAPTOR-KIT-C8NC-option	Joint adaptor
		For N.O.	4G3-JNT-ADAPTOR-KIT-C8NO-option	2 push-in joints (N.C., N.O.: 1)
			4G3-JNT-ADAPTOR-KIT-C8-option	(N.C., N.O.: 1 plug cartridge)
	ø10 joint adaptor kit	For N.C.	4G3-JNT-ADAPTOR-KIT-C10NC-option	Gasket
		For N.O.	4G3-JNT-ADAPTOR-KIT-C10NO-option	Stop pin
			4G3-JNT-ADAPTOR-KIT-C10-option	2 set screws

Female thread adaptor kit

Model	Kit model no.	Set part
4G1	4G1-FML-ADAPTOR-KIT-*port size-option	Female thread adaptor, gasket, 2 set screws
4G2	4G2-FML-ADAPTOR-KIT-*port size-option	Female thread adaptor, gasket, 2 set screws
4G3	4G3-FML-ADAPTOR-KIT-*port size-option	Female thread adaptor, gasket, 2 set screws, 2 body set screws

When using A/B port filter integrated type, designate Option "F".

5. How to replace coil

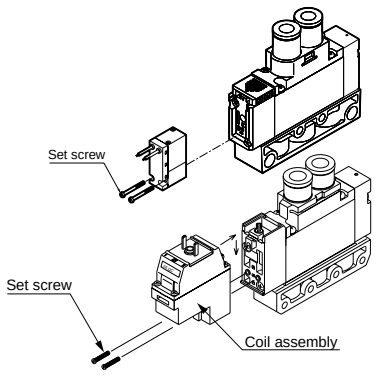
⚠ WARNING

■ Grommet lead wire, E/EJ-connector coil assembly

Replace the coil by removing the set screw shown below. Loosening the other screws could cause operation faults. When installing, check that the gasket is installed on the coil side, and note tightening torque. Improper installation could result in air leaks or operation faults.

■ DIN terminal box coil assembly

Replace the coil assembly by removing the set screw shown below. Loosening the other screws could cause operation faults. When installing, check that the gasket is installed on the coil assembly side, and note tightening torque. Improper installation could result in air leaks or operation faults. The grommet lead, E-connector specification and DIN terminal box specification coil assembly cannot be replaced.



4GA/4GB

3, 5 port pilot operated valve

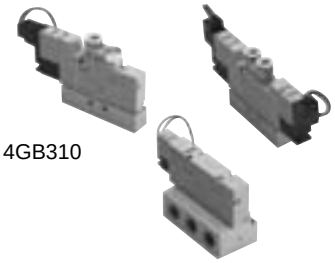
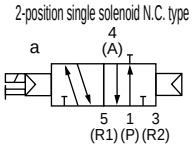
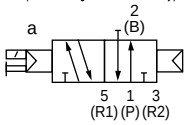
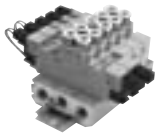
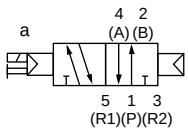
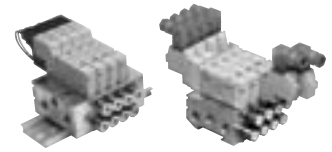
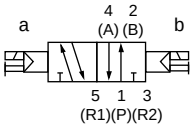
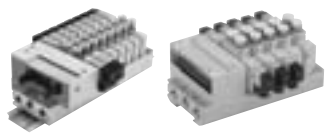
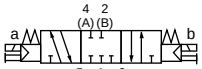
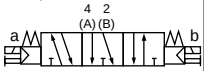
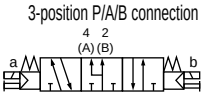
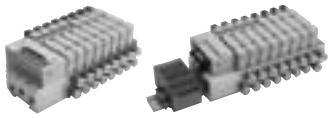
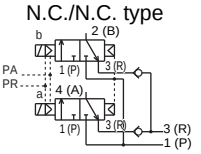
Metal base

CONTENTS

Series variation

4GA/4GB Series

* Refer to page 256 for block manifold.
* Refer to page 336 for a master valve.

Appearance						Model no.	Position No. of solenoid JIS symbol	Valve performance: Flow characteristics C (dm³/(s·bar)) Note 1	Valve performance: Applicable cylinder diameter (ø)	Voltage (v)
Discrete	3GA110-E* 4GA120-E* 4GB310 	Body porting	3 port			3GA1	● 3 port valve 2-position single solenoid N.C. type 	0.66 to 0.70	20 to 40	100 AC Note 2 24 DC 12 DC Note 2. Grommet lead wire specifications are only for 24/12 VDC.
						3GA2		2.2 to 2.7	40 to 80	
						3GA3		3.9	63 to 100	
			5 port			4GA1		0.66 to 0.70	20 to 40	
						4GA2		2.4 to 2.7	40 to 80	
						4GA3		3.2 to 4.0	63 to 100	
		Sub-base porting	5 port			4GB1	2-position single solenoid N.O. type 	1.0 to 1.3	20 to 40	
						4GB2		2.1 to 2.5	40 to 80	
						4GB3		3.2 to 4.2	63 to 100	
Individual wiring manifold (metal base)	M4GA280-E*D 	Body porting	Direct mount type			M4GA1	● 5 port valve 2-position single solenoid 	0.66 to 1.0	20 to 40	100 AC Note 2 24 DC 12 DC Note 2. Grommet lead wire specifications are only for 24/12 VDC.
						M4GA2		1.7 to 2.5	40 to 80	
						M4GA3		2.5 to 3.3	63 to 100	
			DIN rail mount type (-D)			M4GA1		0.66 to 1.0	20 to 40	
						M4GA2		1.7 to 2.5	40 to 80	
						M4GA3		2.5 to 3.3	63 to 100	
	M4GB110-E*D M4GB280-B 	Sub-base porting	Direct mount type			M4GB1		0.67 to 1.0	20 to 40	
						M4GB2		1.6 to 2.4	40 to 80	
						M4GB3		2.6 to 3.3	63 to 100	
			DIN rail mount type (-D)			M4GB1	2-position double solenoid 	0.67 to 1.0	20 to 40	
						M4GB2		1.6 to 2.4	40 to 80	
						M4GB3		2.6 to 3.3	63 to 100	
Reduced wiring manifold (metal base)	M4GA180-T51D M4GA280-T10 	Body porting	Direct mount type	Common gland (-T1*) D sub-connector (-T30) Flat cable connector (-T5*)		M4GA1	3-position all ports closed 	0.66 to 1.0	20 to 40	24 DC Note 3 12 DC Note 3: Serial transmission is used only for 24 VDC
						M4GA2		1.7 to 2.5	40 to 80	
						M4GA3		2.5 to 3.3	63 to 100	
			DIN rail mount type	Common gland (-T1*D) D sub-connector (-T30D) Flat cable connector (-T5*D)		M4GA1	3-position A/B/R connection 	0.66 to 1.0	20 to 40	
						M4GA2		1.7 to 2.5	40 to 80	
						M4GA3		2.5 to 3.3	63 to 100	
				Serial transmission (-T6*D)		M4GA1	3-position P/A/B connection 	0.66 to 1.0	20 to 40	
						M4GA2		1.7 to 2.5	40 to 80	
						M4GA3		2.5 to 3.3	63 to 100	
	M4GB210-T30 M4GB310-T6*D 	Sub-base porting	Direct mount type	Common gland (-T1*) D sub-connector (-T30) Flat cable connector (-T5*)		M4GB1		0.67 to 1.0	20 to 40	
						M4GB2		1.6 to 2.4	40 to 80	
						M4GB3		2.6 to 3.3	63 to 100	
			DIN rail mount type	Common gland (-T1*D) D sub-connector (-T30D) Flat cable connector (-T5*D)		M4GB1	● Two 3 port valve integrated type N.C./N.C. type 	0.67 to 1.0	20 to 40	
						M4GB2		1.6 to 2.4	40 to 80	
						M4GB3		2.6 to 3.3	63 to 100	
				Serial transmission (-T6*D)		M4GB1		0.67 to 1.0	20 to 40	
						M4GB2		1.6 to 2.4	40 to 80	
						M4GB3		2.6 to 3.3	63 to 100	

Note 1: Effective sectional area S and sonic conductance C are converted as S ≒ 5.0 x C.
Note 4: The two 3 port integrated valve is compatible with 3GA1/2 and 3GB1/2.
Note 5: Compatible only with the base piping type (2-position single solenoid).

Solenoid position									A/B connection port												Electric connection										Page
3 port		Two 3 port integrated valve Note 4							Push-in joint				Push-in joint L type (Upward) Note 5				Female thread														
Normally closed	Normally open	A side N.C. B side N.C.	Single solenoid	Double solenoid	All ports closed	A/B/R connection	P/A/B connection	Mix	ø4	ø6	ø8	ø10	ø4	ø6	ø8	ø10	M5	Rc1/8	Rc1/4	Rc3/8	Grommet lead (only 12/24 VDC)	E-connector	EJ-connector	A-connector (only 12/24 VDC)	DIN terminal box	Common gland	D sub-connector	Flat cable with power supply terminal	Flat cable without power supply terminal	Serial transmission	
									C4	C6	C8	C10	CL4	CL6	CL8	CL10	M5	06	08	10	Blank	E*	E*J	A2N	B	T1*	T30	T50	T5*	T6*	
●	●	●							●	●							●				●	●	●								90
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●	●									●	●	●							●		●	●	●		●						
		●	●	●	●	●	●		●	●							●				●	●	●								90
		●	●	●	●	●	●		●	●	●							●			●	●	●		●						
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		●	●	●	●	●	●														●	●	●								130
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									●	●	●				●	●			●												
										●	●	●			●	●			●												

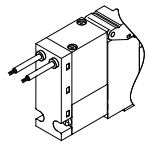
Incorporated valve

Electric connection

Discrete valve and individual wiring manifold

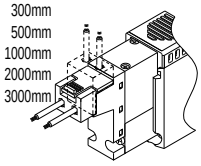
Blank Grommet lead wire Ⓦ

● Lead wire length
300mm

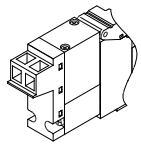


E0 E-connector Ⓦ

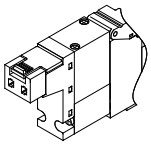
● Lead wire length
300mm
500mm
1000mm
2000mm
3000mm



E0N E-connector w/o socket

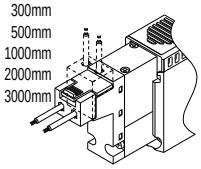


E1 E-connector w/ socket terminal

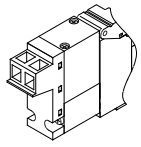


E2 E-connector ⓁⓈⓌ

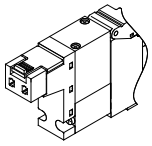
● Lead wire length
300mm
500mm
1000mm
2000mm
3000mm



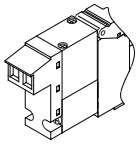
E2N E-connector w/o socket ⓈⓌ



E3 E-connector socket terminal attached ⓈⓁ

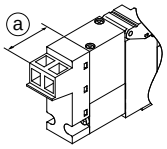


A2N A-connector downward w/o socket

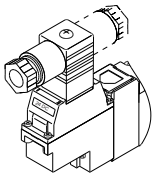


● For 100 VAC, dimension ⓐ is 3.5 mm longer than 12/24 VDC.

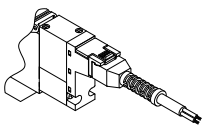
ⓐ



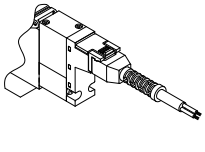
B DIN terminal box



E0*J EJ-connector Ⓦ

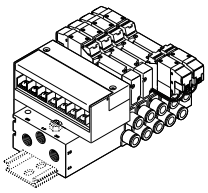


E2*J EJ-connector ⓁⓈⓌ

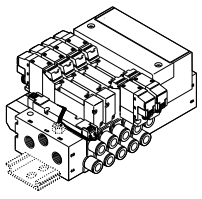


Reduced wiring manifold

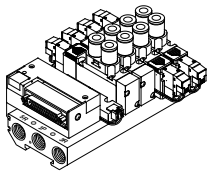
T10 T11 Common gland type (left) M3 thread/push-in fitting



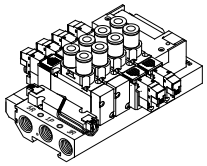
T10R T11R Common gland (right) M3 thread/push-in fitting



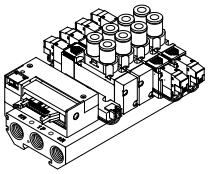
T30 D sub-connector type (Left)



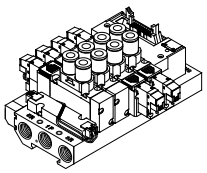
T30R D sub-connector type (Right)



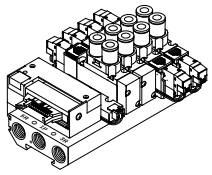
T50 Flat cable power supply w/ terminal (left)



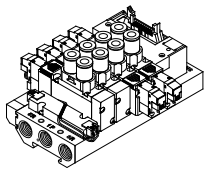
T50R Flat cable power supply w/ terminal (right)



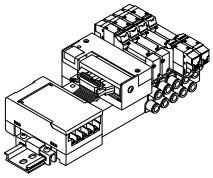
T51 T52 T53 Flat cable power supply without terminal (left)



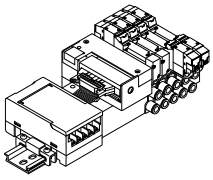
T51R T52R T53R Flat cable power supply w/o terminal (right)



T6*0 Serial transmission type (8 points)

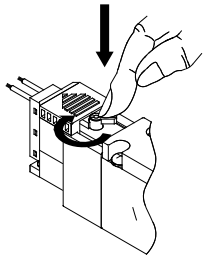


T6*1 Serial transmission type (16 points)



Manual override

● Non-locking /locking common type (Standard)

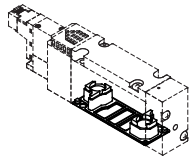


(1) For non-locking
Push to turn ON
Release to turn OFF

(2) For locking
Push and turn 90° clockwise to hold ON.
Turn counterclockwise to release lock OFF.

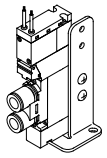
Other options

H Check valve



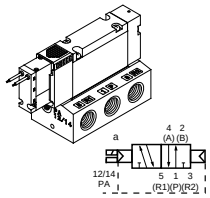
Pilot exhaust provided as standard.

P Mounting plate



(Only body porting)

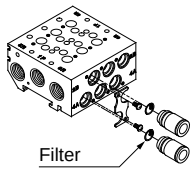
K External pilot



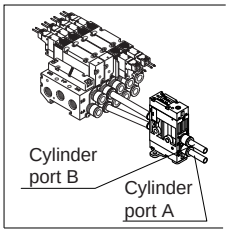
A Ozone and coolant proof

Select for cutting oil flow-in measures and ozone measures.

F A/B port filter integrated



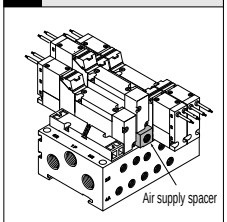
Pilot check valve (Separate type)



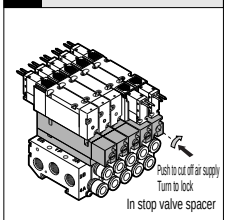
Electric connection circuit diagram

Other options

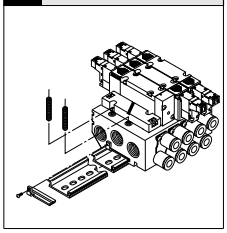
Z1 Air supply spacer



Z2 In stop valve spacer



D DIN rail mount

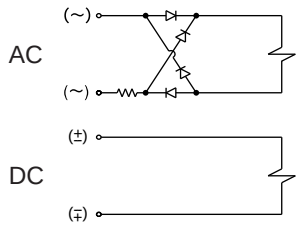


Electric connection (wiring method)

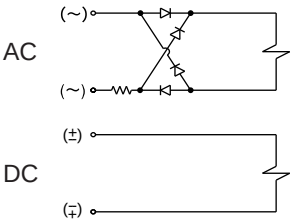
Ⓑ: No lead wire Ⓦ: Lead wire Ⓛ: Indicator light
Ⓢ: Surge suppressor Ⓝ: No socket

Blank Grommet lead wire Ⓦ

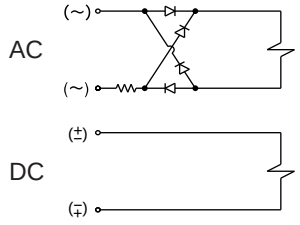
E0 / E0*J E-connector/EJ-connector Ⓦ



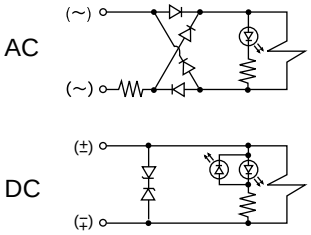
E0N E-connector Ⓝ



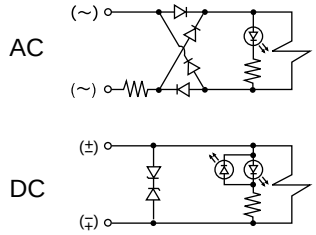
E1 E-connector Ⓑ



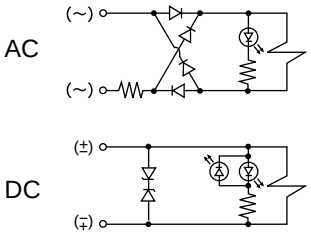
E2 / E2*J E-connector/EJ-connector Ⓛ Ⓦ Ⓢ



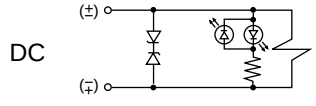
E2N E-connector Ⓛ Ⓢ Ⓝ



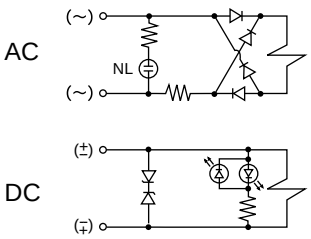
E3 E-connector Ⓑ Ⓛ Ⓢ



A2N A-connector Ⓛ Ⓢ Ⓝ



B DIN terminal box Ⓛ Ⓦ Ⓢ



* Zener diode is used for a surge suppressor.

Discrete valve
Body porting
3GA1/2/3, 4GA1/2/3 Series

Applicable cylinder bore size: 20 to 100 mm

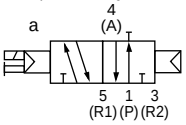
CE Refer to Intro 17 for details.

RoHS CAD

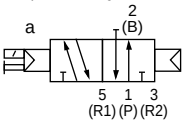
JIS symbol

● 3 port valve

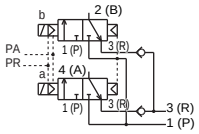
2-position single solenoid N.C. type



2-position single solenoid N.O. type

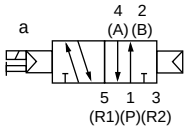


● Two 3 port valve integrated type
(A side valve: N.C., B side valve: N.C.)

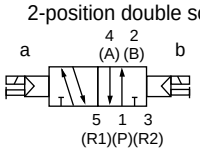


● 5 port valve

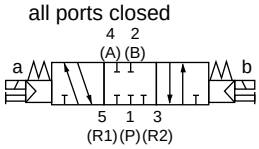
2-position single solenoid



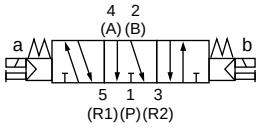
2-position double solenoid



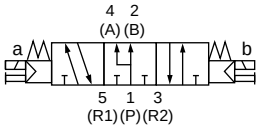
3-position
all ports closed



3-position A/B/R connection



3-position P/A/B connection



Common specifications

Descriptions	
Type of valve and operation method	Pilot operated soft spool valve
Working fluid	Compressed air
Max. working pressure MPa	0.7
Min. working pressure MPa	0.2 (2-position, 3-position)
Withstanding pressure MPa	1.05
Ambient temperature °C	-5 to 55 (no freezing)
Fluid temperature °C	5 to 55
Manual override	Non-locking/locking common type
Pilot exhaust method	Main valve, pilot operated valve common exhaust type
Lubrication Note 1	Not required
Protective structure Note 2	Dust proof
Vibration/impact m/s²	50 or less / 300 or less
Working environment	Containing corrosive gas is impermissible.

Note 1: Use the turbine oil Class 1 ISO VG32 if lubricated.
Excessive or intermittent lubrication results in instable operation.
Note 2: Check that water drops or oil, etc., do not come into contact.
IP65 (jet-proof type) is used for DIN terminal box specifications.
Note that the box must be fixed using the specified adaptive cord outer diameter and tightening torque.

Electric specifications

Descriptions		
Rated voltage	DC	12, 24
V	AC	100
Rated voltage fluctuation range		±10%
Holding current	24 VDC	0.023 (0.025)
Note 3 A	12 VDC	0.046 (0.050)
	100 VAC	0.010 (0.012)
Power consumption	24 VDC	0.55 (0.6)
Note 3 W	12 VDC	0.55 (0.6)
Apparent power VA	100 VAC	1.0 (1.2)
Heat proof class		B
Temperature rise °C		50
Surge suppressor		Option
Indicator		With indicator light (option)

Note 3: The values in ( ) include the light.

Individual specifications

Descriptions		3GA1	3GA2	3GA3	4GA1	4GA2	4GA3
Port size	A/B port	Push-in joint ø4, ø6	Push-in joint ø4, ø6, ø8	Push-in joint ø6, ø8, ø10	Push-in joint ø4, ø6	Push-in joint ø4, ø6, ø8	Push-in joint ø6, ø8, ø10
		M5	Rc1/8	Rc1/4	M5	Rc1/8	Rc1/4
	P/R1/R2 port	M5	Rc1/8	Rc1/4	M5	Rc1/8	Rc1/4

G threads and NPT threads are available for the piping port threads. Contact CKD for information.

Descriptions			3GA1		3GA2		3GA3		4GA1		4GA2		4GA3	
			ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF
Response time ms	Two 3 port valve integrated type		9	12	12	29	-	-	-	-	-	-	-	-
	2-position	Single solenoid	12	12	19	19	25	28	12	12	19	19	25	28
		Double solenoid	-	-	-	-	-	-	9	-	18	-	24	-
	3-position	A/B/R connection	-	-	-	-	-	-	8	15	17	30	23	45

Values include the light surge suppressor. Response time is the value at an air supply of 0.5 MPa, 20°C, and oil-free.
Changes based on pressure and quality of oil.

Descriptions				3GA1	3GA2	3GA3	4GA1	4GA2	4GA3
Weight g	2-position	Single solenoid	Grommet lead wire	58 (44)	115 (85)	162 (120)	58 (44)	120 (90)	171 (129)
			E-connector	60 (46)	117 (87)	164 (122)	60 (46)	122 (92)	173 (131)
			DIN terminal box	-	137 (107)	184 (142)	-	142 (112)	193 (151)
		Double solenoid	Grommet lead wire	-	-	-	73 (59)	135 (105)	187 (141)
			E-connector	-	-	-	77 (63)	139 (109)	191 (145)
			DIN terminal box	-	-	-	-	179 (149)	231 (185)
	3-position	All ports closed	Grommet lead wire	-	-	-	75 (61)	147 (117)	196 (154)
			E-connector	-	-	-	79 (65)	151 (121)	200 (158)
			DIN terminal box	-	-	-	-	191 (161)	240 (198)

Values in ( ) do not include the piping adapter. The E-connector includes the socket assembly (with 300 mm lead).
When using the EJ-connector, add 16 g per connector to the E connector value.

Flow characteristics

Model no.	Solenoid position		P ⟶ A/B		A/B ⟶ R1/R2	
			C (dm³/ (s·bar))	b	C (dm³/ (s·bar))	b
3GA1	2-position		1.2	0.47	0.70	0.39
	Two 3 port valves integrated type		0.98	0.45	0.66	0.38
3GA2	2-position		2.4	0.33	2.7	0.28
	Two 3 port valves integrated type		1.8	0.29	2.2	0.34
3GA3	2-position		3.4	0.29	3.9	0.27
4GA1	2-position		1.2	0.47	0.70	0.39
	3-position	All ports closed	1.1	0.39	0.66	0.29
		A/B/R connection	1.1	0.33	0.68	0.31
		P/A/B connection	1.3	0.61	0.67	0.43
4GA2	2-position		2.4	0.33	2.7	0.28
	3-position	All ports closed	2.2	0.28	2.4	0.27
		A/B/R connection	2.3	0.26	2.7	0.32
		P/A/B connection	2.5	0.38	2.4	0.33
4GA3	2-position		3.4	0.29	3.9	0.27
	3-position	All ports closed	3.1	0.27	3.2	0.32
		A/B/R connection	3.1	0.33	4.0	0.25
		P/A/B connection	3.5	0.43	3.3	0.39

Note 1: Effective sectional area S and sonic conductance C are converted as S ≒ 5.0 x C.
Note 2: Values for the built-in check valve apply for the 2-position, two 3 port valve integrated type and A/B/R connection.

Ozone specifications • Coolant proof specifications

The specification can be selected with "E" option "A" in How to Order on page 92.

Clean room specifications (Catalog No. CB-033SA)

● Dust generation preventing structure for use in cleanrooms

** - VOLTAGE - P7*

How to order

4GA1 1 0 - C6 - E2 [ ] - 1

3GA1 1 0 - C6 - E2 [ ] - 1

Ⓐ Model No.

Ⓑ Solenoid position

Ⓒ Port size

Ⓓ Electric connection
Refer to page 89 for surge suppressor/indicator light circuit diagram.

Ⓔ Option

Ⓕ Voltage

Symbol	Descriptions	Ⓐ Model no. 3GA1	3GA2	3GA3	4GA1	4GA2	4GA3
Ⓑ Solenoid position							
1	2-position single solenoid				●	●	●
2	2-position double solenoid				●	●	●
3	3-position all ports closed				●	●	●
4	3-position A/B/R connection				●	●	●
5	3-position P/A/B connection				●	●	●
1	2-position single solenoid N.C. Note 1	●	●	●			
11	2-position single solenoid N.O. Note 1	●	●	●			
66	Two 3 port valve integrated type A side valve: normally closed Note 2 B side valve: normally closed	●	●				
Ⓒ Port size							
Port	A/B port	P/R1/R2 port (1)=M5 (2)=Rc1/8 (3)=Rc1/4					
C4	ø4 push-in joint	(1)	(2)		(1)	(2)	
C6	ø6 push-in joint	(1)	(2)	(3)	(1)	(2)	(3)
C8	ø8 push-in joint		(2)	(3)		(2)	(3)
C10	ø10 push-in joint			(3)			(3)
M5	M5	(1)			(1)		
06	Rc1/8		(2)			(2)	
08	Rc1/4			(3)			(3)
Ⓓ Electric connection							
	Refer to the electric connection list on next page.						
Ⓔ Option							
Blank	None	●	●	●	●	●	●
H	w/ check valve (Note 4)	●	●	●	●	●	●
P	Mounting plate (Note 5)	●	●	●	●	●	●
A	Ozone and coolant proof	●	●	●	●	●	●
F	P/A/B port filter integrated	●	●	●	●	●	●
Ⓕ Voltage							
1	100 VAC (rectified bridge integrated)	●	●	●	●	●	●
3	24 VDC	●	●	●	●	●	●
4	12 VDC	●	●	●	●	●	●

[ ] is not available.

Note on model no. selection

Note 1: For the 3GA normally closed type, the piping connection port is plugged. When using the 3GA normally open type, avoid plugging the 5 (R1) port. Malfunctions could occur.

Note 2: The dimension drawings are the same dimensions as each 2-position double solenoid.

Note 4: The check valve specifications are not available for the 3 position all ports closed or P/A/B connection. Refer to page 382 for details on the check valve.

Note 5: Normal installation is not possible when using the double solenoid with DIN terminal or 100 VAC. Consult with CKD for these applications.

(Electric connection list)

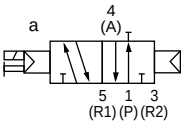
Ⓓ Electric connection		Ⓐ Model no.					
		3GA1	3GA2	3GA3	4GA1	4GA2	4GA3
Blank	Grommet lead wire (300mm) Note 3	●	●	●	●	●	●
B	DIN terminal box (Pg7) w/ surge suppressor and indicator light		●	●		●	●
E-connector (upward/lateral common)							
E0	Lead wire (300 mm)	●	●	●	●	●	●
E00	Lead wire (500 mm)	●	●	●	●	●	●
E01	Lead wire (1000 mm)	●	●	●	●	●	●
E02	Lead wire (2000 mm)	●	●	●	●	●	●
E03	Lead wire (3000 mm)	●	●	●	●	●	●
E2	Lead wire (300 mm) w/ surge suppressor and indicator light	●	●	●	●	●	●
E20	Lead wire (500 mm) w/ surge suppressor and indicator light	●	●	●	●	●	●
E21	Lead wire (1000 mm) w/ surge suppressor and indicator light	●	●	●	●	●	●
E22	Lead wire (2000 mm) w/ surge suppressor and indicator light	●	●	●	●	●	●
E23	Lead wire (3000 mm) w/ surge suppressor and indicator light	●	●	●	●	●	●
E0N	w/o lead wire (w/o socket)	●	●	●	●	●	●
E2N	w/o lead wire (w/o socket) w/ surge suppressor and indicator light	●	●	●	●	●	●
E3	w/o lead wire (socket and terminal attached) w/ surge suppressor and indicator light	●	●	●	●	●	●
E1	w/o lead wire (socket and terminal attached)	●	●	●	●	●	●
EJ-connector (socket with cover, upward/lateral common)							
E01J	Lead wire (1000 mm)	●	●	●	●	●	●
E02J	Lead wire (2000 mm)	●	●	●	●	●	●
E03J	Lead wire (3000 mm)	●	●	●	●	●	●
E21J	Lead wire (1000 mm) w/ surge suppressor and indicator light	●	●	●	●	●	●
E22J	Lead wire (2000 mm) w/ surge suppressor and indicator light	●	●	●	●	●	●
E23J	Lead wire (3000 mm) w/ surge suppressor and indicator light	●	●	●	●	●	●

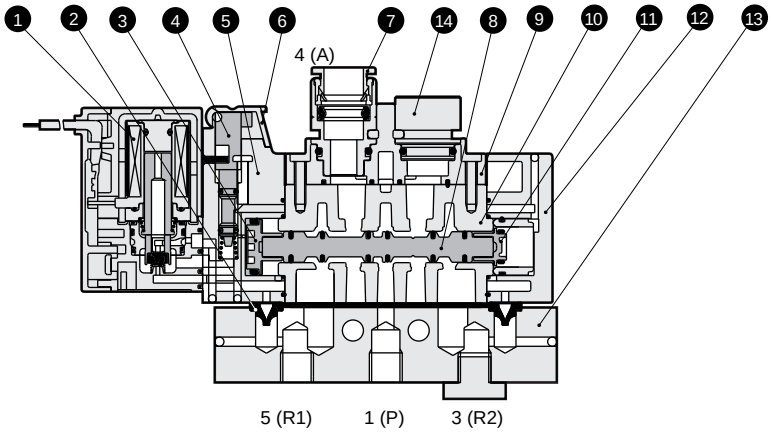
Note 3: The grommet lead specifications are available only for 24/12 VDC.

Internal structure drawing and parts list

3GA110-$^{C4}_{C6}$-*

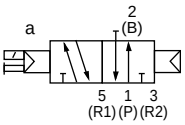
● 2-position single solenoid: Normally closed
Grommet lead wire (blank)

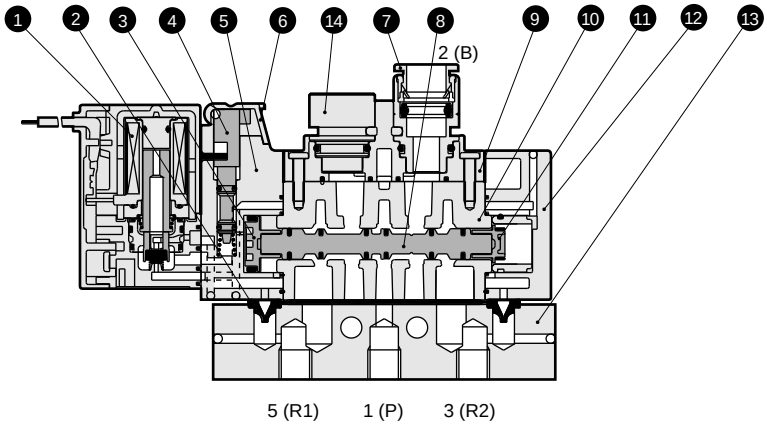




3GA1110-$^{C4}_{C6}$-*

● 2-position single solenoid: Normally open
Grommet lead wire (blank)





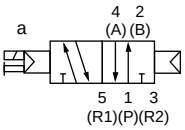
3GA1660-$^{C4}_{C6}$-*

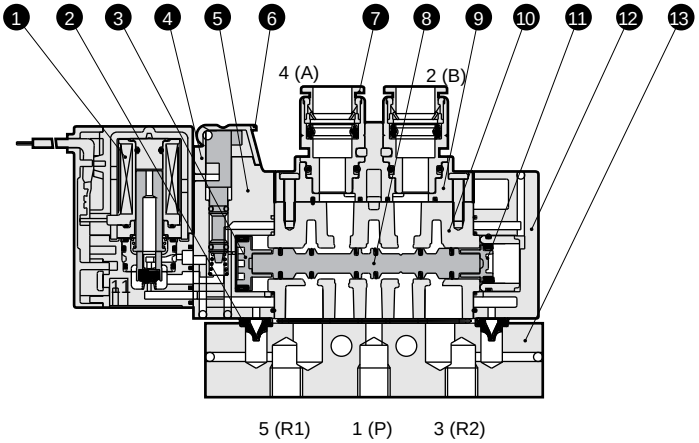
● Two 3 port valve integrated type (A side valve: Normally closed, B side valve: Normally closed)
Grommet lead wire (blank)

Refer to page 98 for details.

4GA110

● 2-position single solenoid
Grommet lead wire (blank)

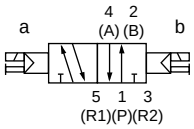


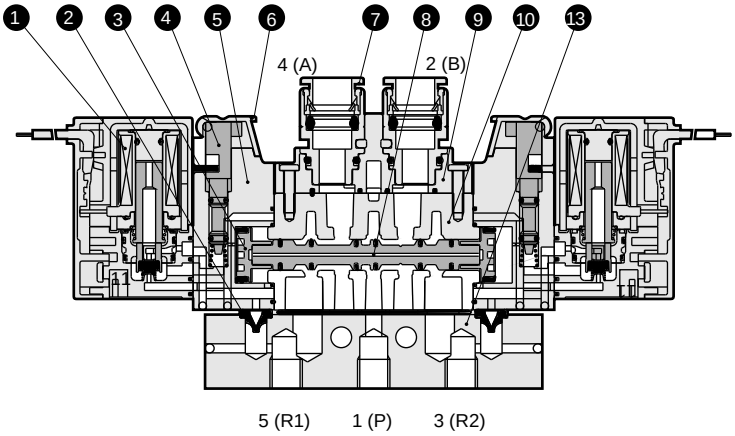


Internal structure drawing and parts list

4GA120

● 2-position double solenoid
Grommet lead wire (blank)

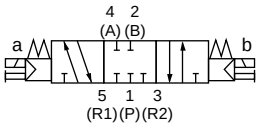




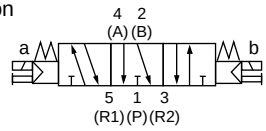
4GA1$^{3}_{4}_{5}$0

● 3-position
Grommet lead wire (blank)

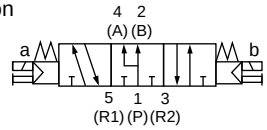
All ports closed

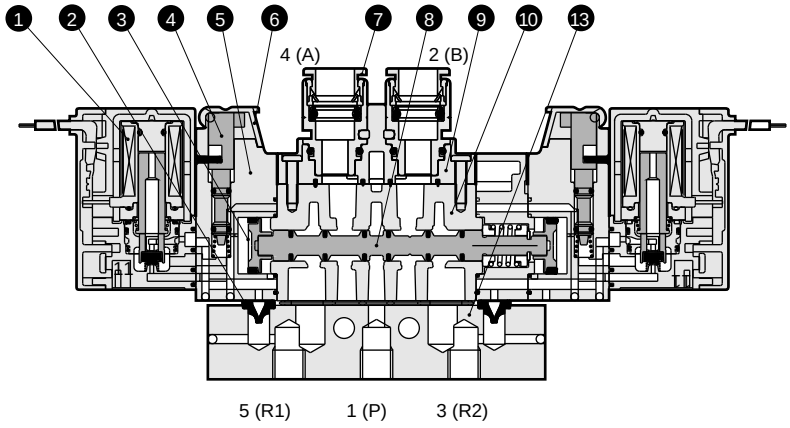


A/B/R connection



P/A/B connection





Main parts list

No.	Parts name	Material
1	Coil assembly	-
2	Pilot exhaust check valve	Nitrile rubber
3	Piston D assembly	-
4	Manual override	Resin
5	Piston room	Resin
6	Protective cover of manual override	Resin
7	Cartridge type push-in joint	-
8	Spool assembly	-
9	Joint adaptor	Resin
10	Body	Aluminum alloy die-casting
11	Piston S assembly	-
12	Cap	Resin
13	Piping adaptor	Aluminum alloy die-casting
14	Plug cartridge	Aluminum

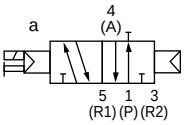
Repair parts list

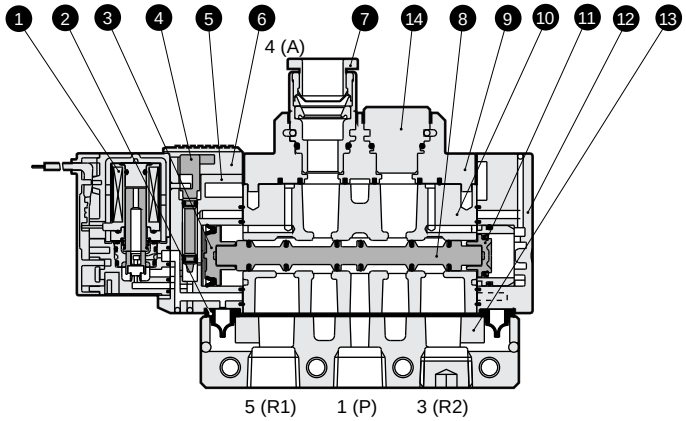
No.	Parts name		Model no.
1	Coil assembly		4G-[electric connection]-*-COIL-[voltage] Blank: Standard A: Ozone proof Blank: Grommet lead wire
7	Cartridge type push-in joint and related parts	ø4 straight type	4G1-JOINT-C4
		ø6 straight type	4G1-JOINT-C6
		Plug cartridge	4G1-JOINT-CPG

Internal structure drawing and parts list

3GA210/3GA310

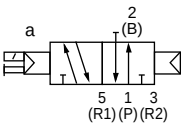
● 2-position single solenoid: Normally closed
Grommet lead wire (blank)

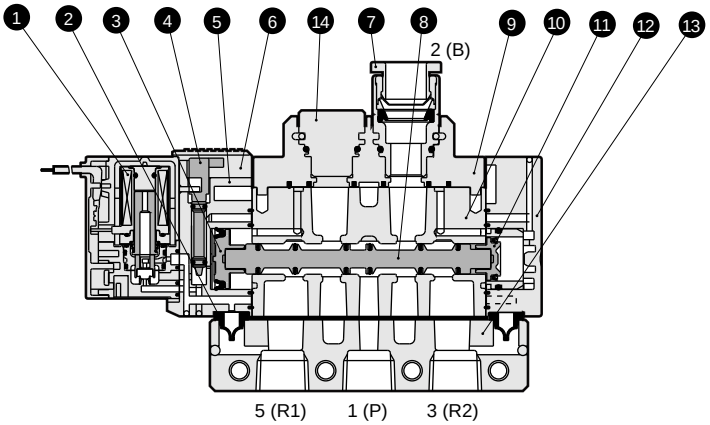




3GA2110/3GA3110

● 2-position single solenoid: Normally open
Grommet lead wire (blank)





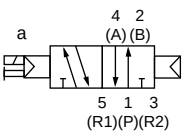
3GA2660

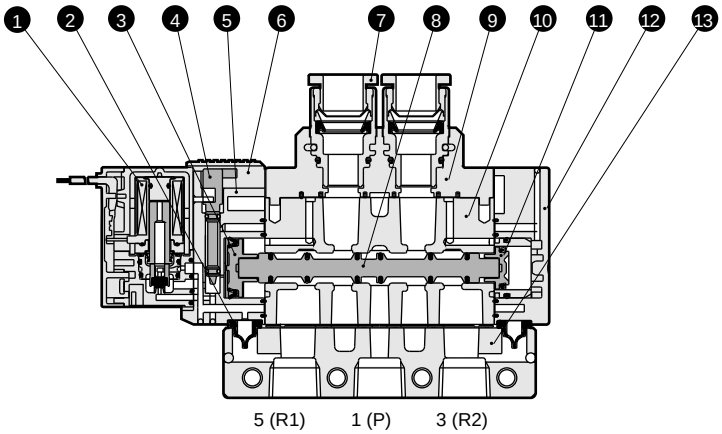
● Two 3 port valve integrated type (A side valve: Normally closed, B side valve: Normally closed)
Grommet lead wire (blank)

Refer to page 98 for details.

4GA210/4GA310

● 2-position single solenoid
Grommet lead wire (blank)

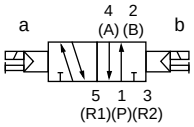


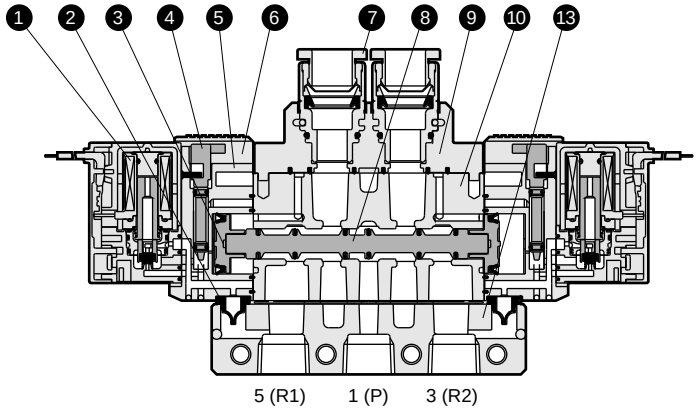


Internal structure drawing and parts list

4GA220/4GA320

● 2-position double solenoid
Grommet lead wire (blank)

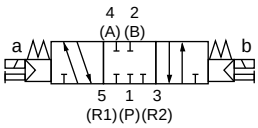




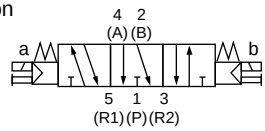
4GA2$^{3}_{5}{}^{4}$0/ 4GA3$^{3}_{5}{}^{4}$0

● 3-position
Grommet lead wire (blank)

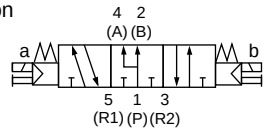
All ports closed

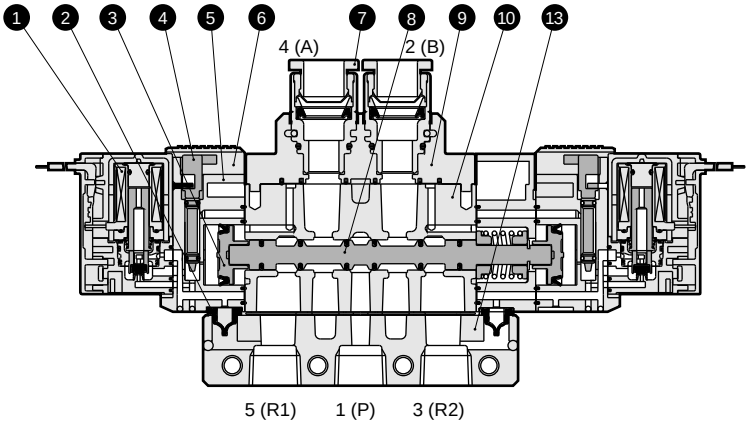


A/B/R connection



P/A/B connection





Main parts list

No.	Parts name	Material
1	Coil assembly	-
2	Pilot exhaust check valve	Nitrile rubber
3	Piston D assembly	-
4	Manual override	Resin
5	Piston room	Resin
6	Protective cover of manual override	Resin
7	Cartridge type push-in joint	-
8	Spool assembly	-
9	Joint adaptor	Resin
10	Body	Aluminum alloy die-casting
11	Piston S assembly	-
12	Cap	Resin
13	Piping adapter	Aluminum alloy die-casting
14	Plug cartridge	Aluminum

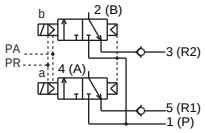
Repair parts list

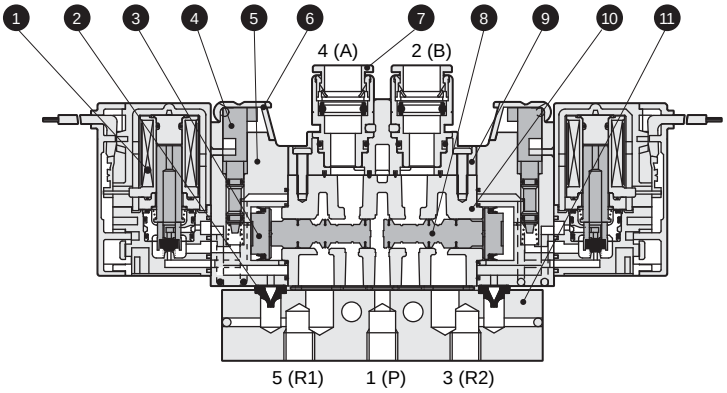
No.	Parts name			Model no.
1	Coil assembly			4G- electric connection -*-COIL- voltage Blank: Standard A: Ozone proof Blank: Grommet lead wire
7	Cartridge type push-in joint and related parts	4G2	ø4 straight type	4G2-JOINT-C4
			ø6 straight type	4G2-JOINT-C6
			ø8 straight type	4G2-JOINT-C8
			Plug cartridge	4G2-JOINT-CPG
		4G3	ø6 straight type	4G3-JOINT-C6
			ø8 straight type	4G3-JOINT-C8
			ø10 straight type	4G3-JOINT-C10
			Plug cartridge	4G3-JOINT-CPG

Internal structure drawing and parts list

3GA1660-$^{C4}_{C6}$-*

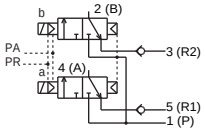
● Two 3 port valve integrated type (A side valve: Normally closed, B side valve: Normally closed)
Grommet lead wire (blank)

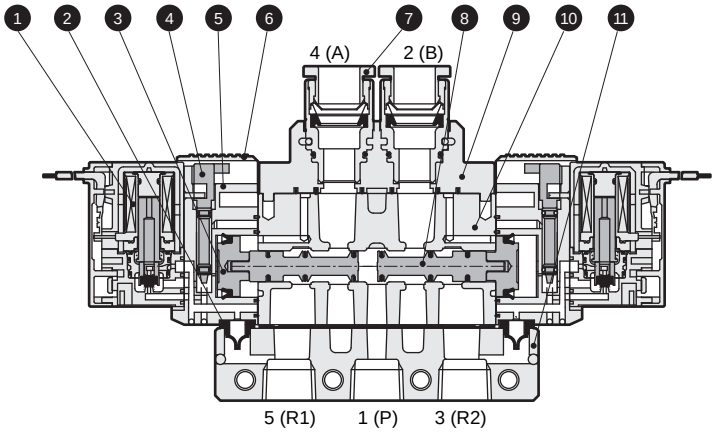




3GA2660-$^{C4}_{C6}_{C8}$-*

● Two 3 port valve integrated type (A side valve: Normally closed, B side valve: Normally closed)
Grommet lead wire (blank)





Main parts list

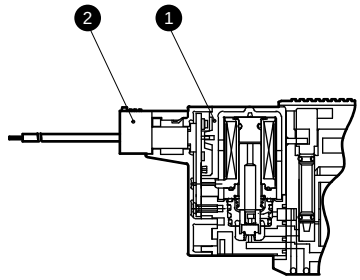
No.	Parts name	Material
1	Coil assembly	-
2	Pilot exhaust check valve	Nitrile rubber
3	Piston assembly	-
4	Manual override	Resin
5	Piston room	Resin
6	Protective cover of manual override	Resin
7	Cartridge type push-in joint	-
8	Spool assembly	-
9	Joint adaptor	Resin
10	Body	Aluminum alloy die-casting
11	Piping adapter	Aluminum alloy die-casting

Repair parts list

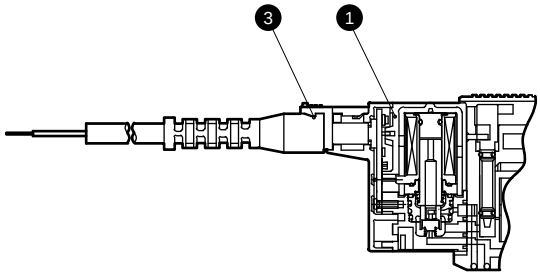
No.	Parts name			Model no.
1	Coil assembly			4G-[electric connection]-*-COIL-[voltage] Blank: Standard A: Ozone proof Blank: Grommet lead wire
7	Cartridge type push-in joint and related parts	4G1	ø4 axial	4G1-JOINT-C4
			ø6 axial	4G1-JOINT-C6
			Plug cartridge	4G1-JOINT-CPG
		4G2	ø4 axial	4G2-JOINT-C4
			ø6 axial	4G2-JOINT-C6
			ø8 axial	4G2-JOINT-C8
			Plug cartridge	4G2-JOINT-CPG

Internal structure drawing and parts list (electric connection)

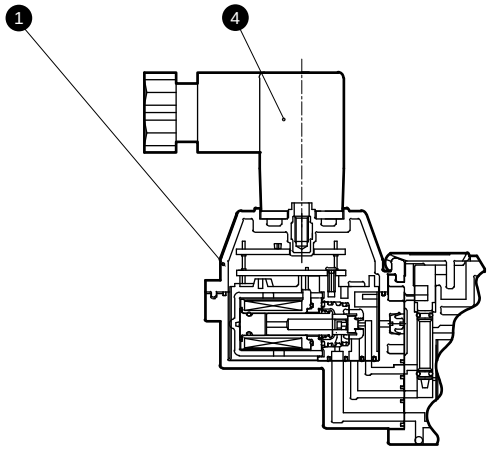
● E-connector type E**



● EJ-connector type E**J



● DIN terminal box type B



Main parts list

No.	Parts name	Material
1	Coil assembly	
2	E-connector socket assembly	-
3	Socket assembly with cover	-
4	DIN terminal box assembly	-

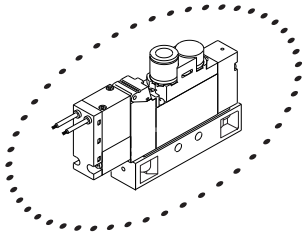
Repair parts list

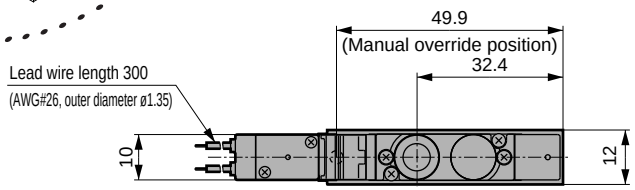
No.	Parts name	Model no.
1	Coil assembly	4G-[electric connection]-*-COIL-[voltage] Blank: Standard A: Ozone proof E*: E-connector type E*J: Socket with cover type B: DIN terminal box type B includes the DIN terminal box
2	E-connector socket assembly	4G-SOCKET-ASSY-E**-[voltage]
3	Socket assembly with cover	4G-SOCKET-ASSY-E**J
4	DIN terminal box assembly	4G-TERMINAL-BOX-[voltage]

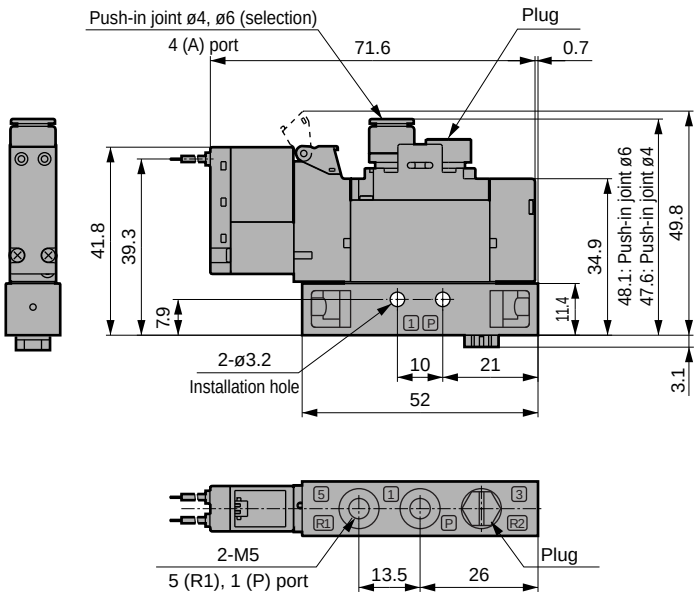
Dimensions CAD

3GA110

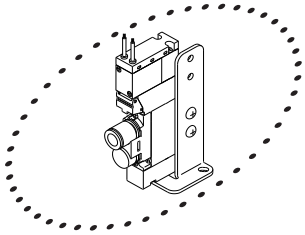
● 2-position single solenoid normally closed grommet lead wire (blank)

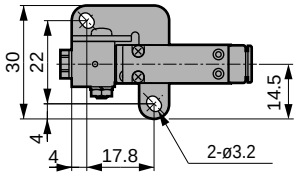


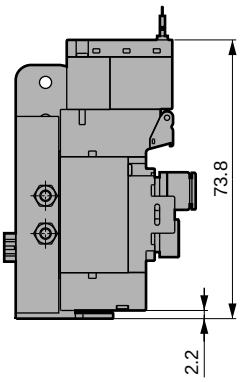




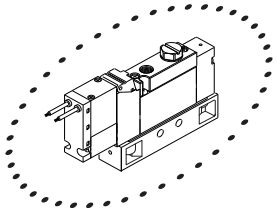
● Mounting plate type (P)

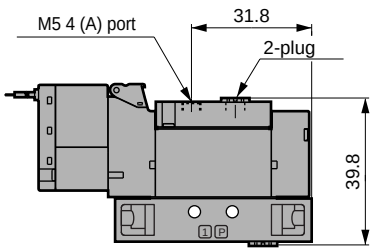






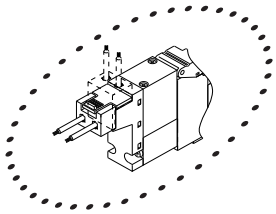
● M5 female thread type (M5)

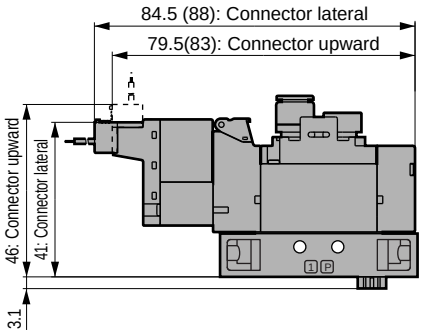




Dimensions

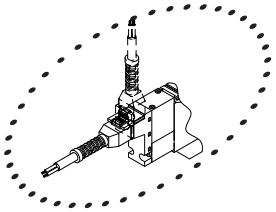
● E-connector type (E)

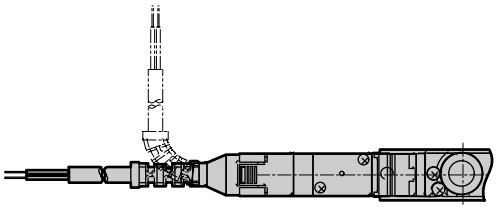


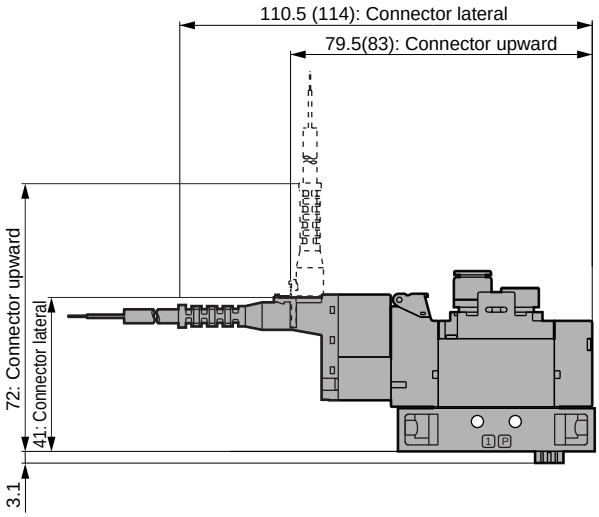


Note: Values in ( ) are for 100 VAC

● EJ-connector type (E**J)





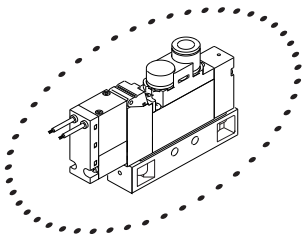


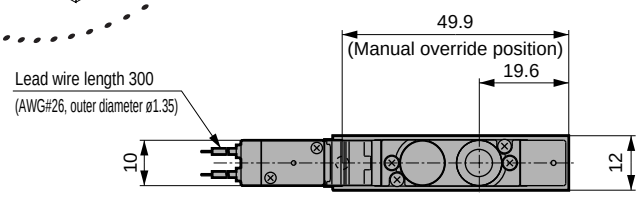
Note: Values in ( ) are for 100 VAC

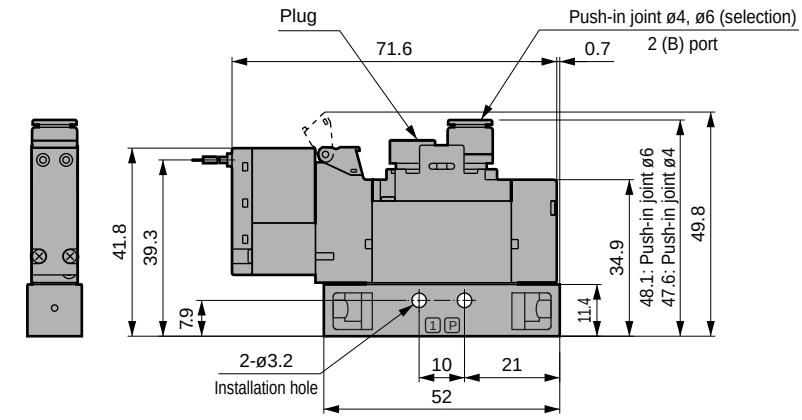
Dimensions CAD

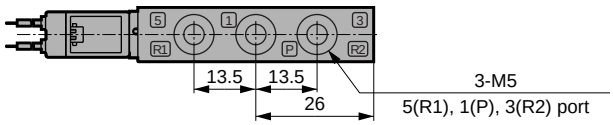
3GA1110

● 2-position single solenoid normally open grommet lead wire (blank)

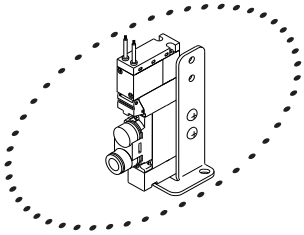


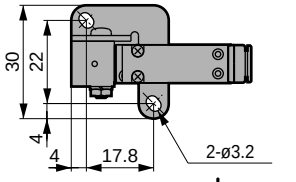


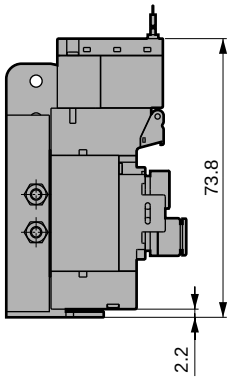




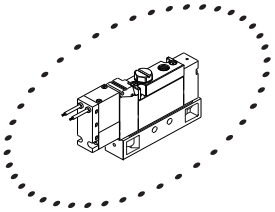
● Mounting plate type (P)

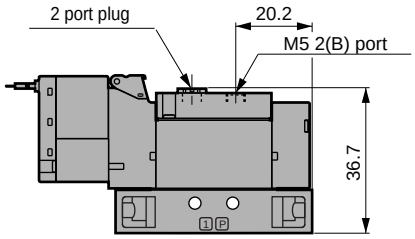






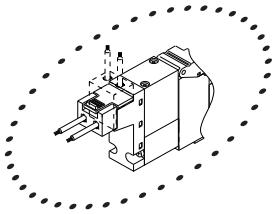
● M5 female thread type (M5)

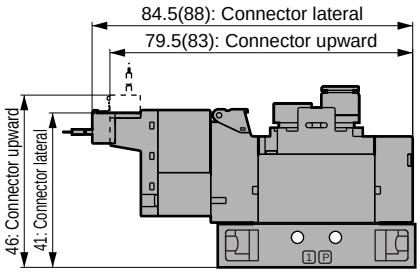




Dimensions

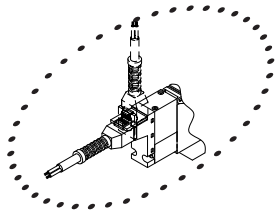
● E-connector type (E)

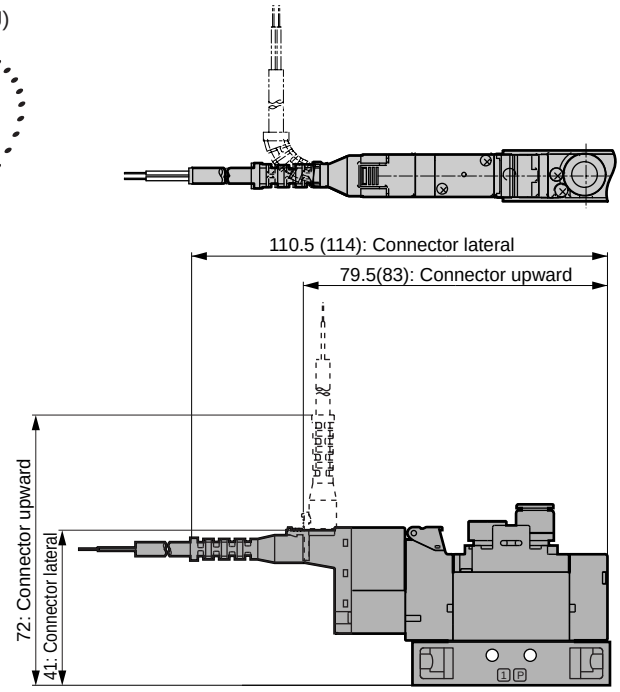




Note: Values in ( ) are for 100 VAC

● EJ-connector type (E**J)



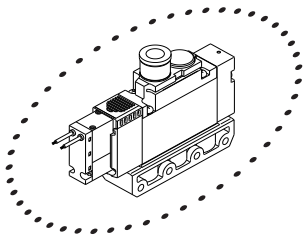


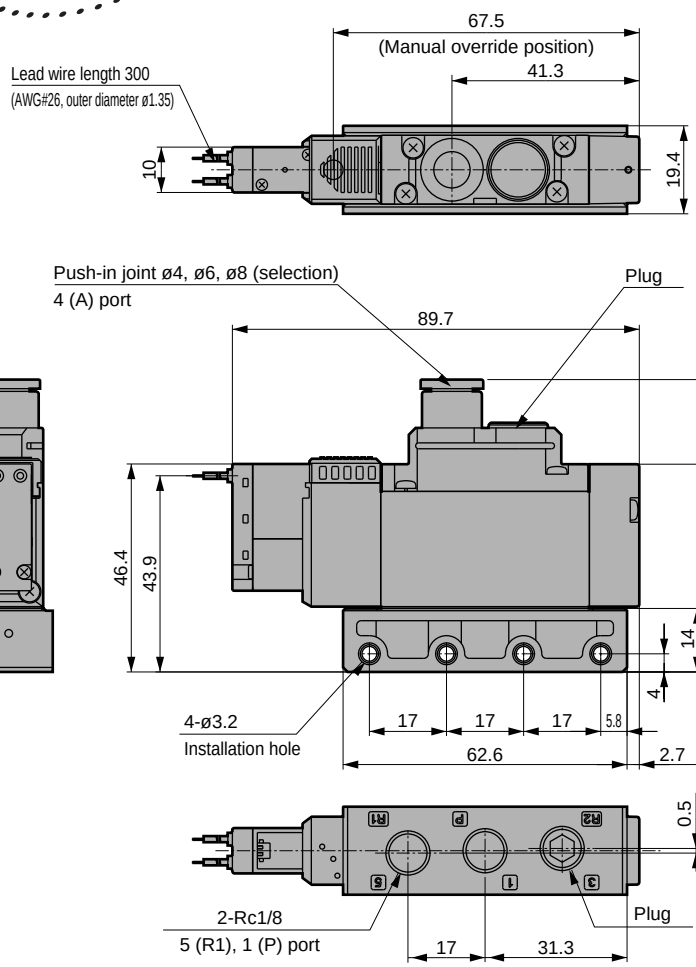
Note: Values in ( ) are for 100 VAC

Dimensions CAD

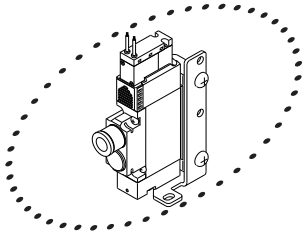
3GA210

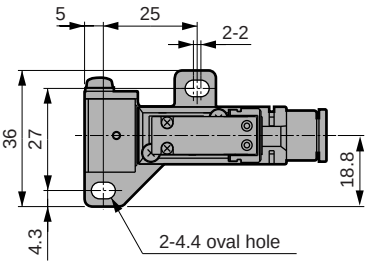
● 2-position single solenoid normally closed grommet lead wire (blank)

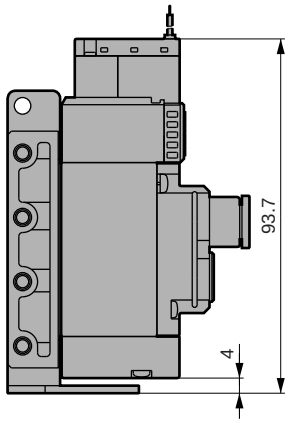




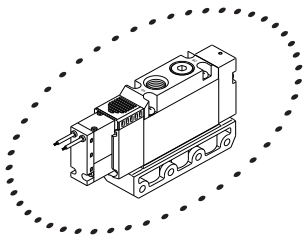
● Mounting plate type (P)

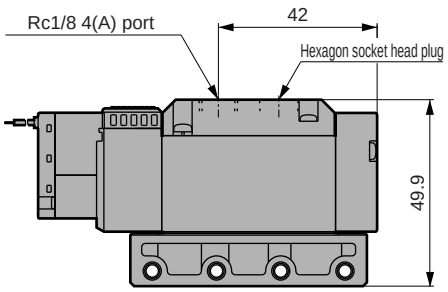






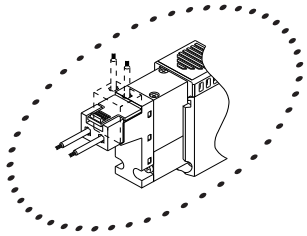
● Rc1/8 female thread type (06)

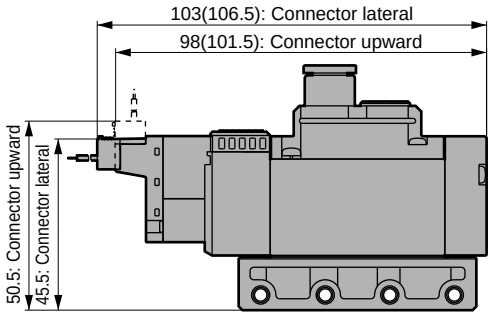




Dimensions

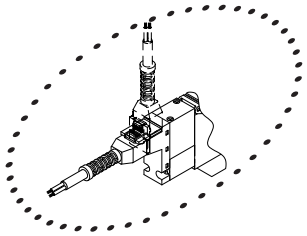
● E-connector type (E)

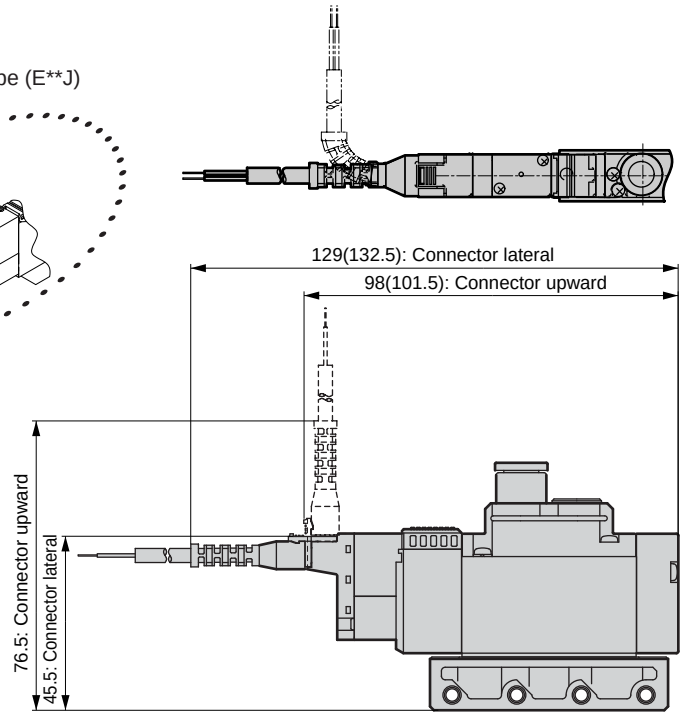




Note: Values in ( ) are for 100 VAC

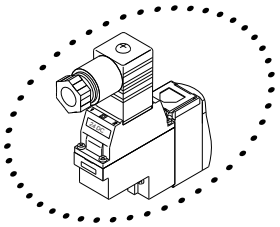
● EJ-connector type (E**J)

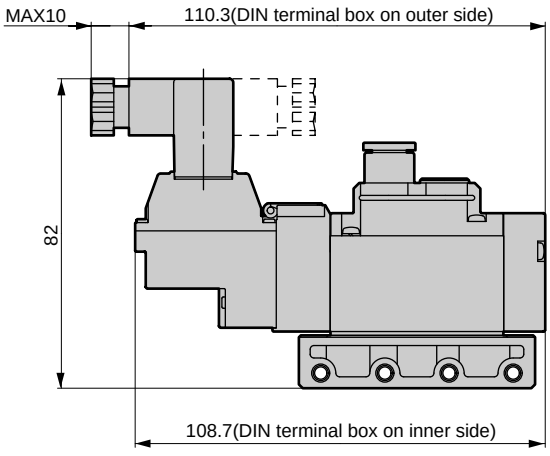




Note: Values in ( ) are for 100 VAC

● DIN terminal box type (B)



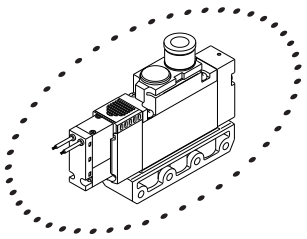


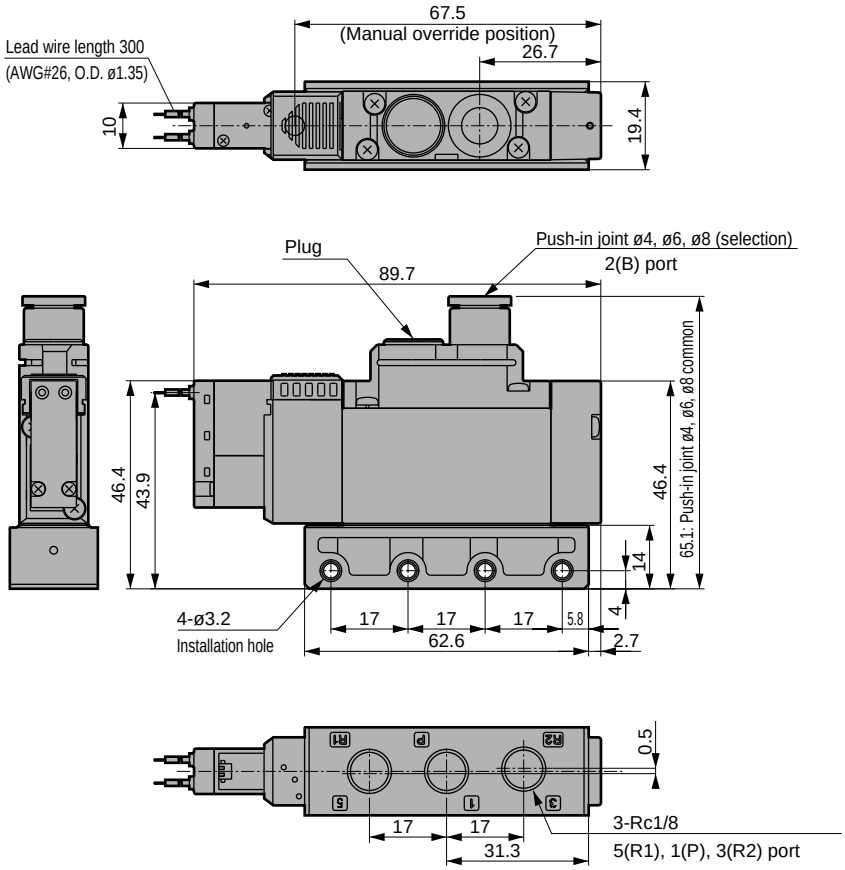
Note: The DIN terminal box assembly is shipped facing inward.

Dimensions CAD

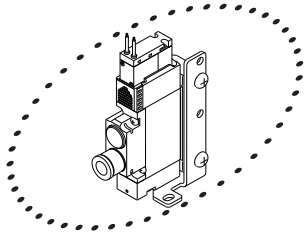
3GA2110

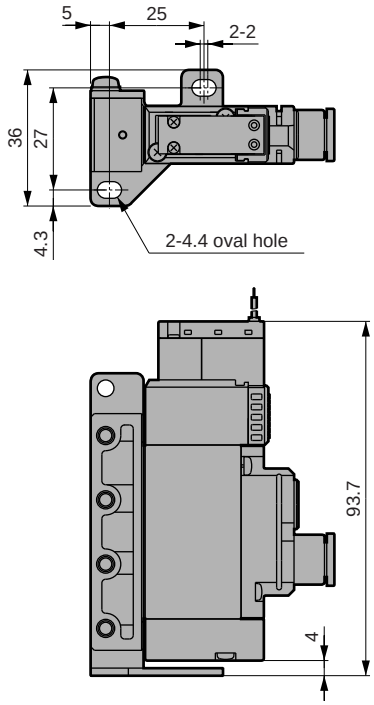
● 2-position single solenoid normally open grommet lead wire (blank)



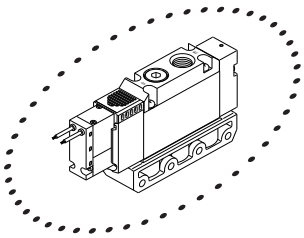


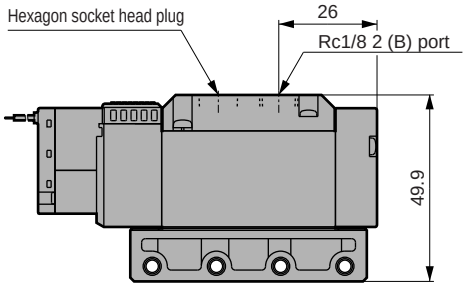
● Mounting plate type (P)





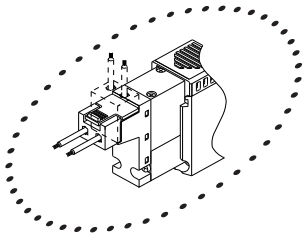
● Rc1/8 female thread type (06)

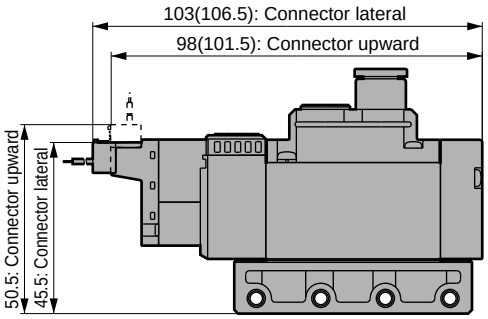




Dimensions

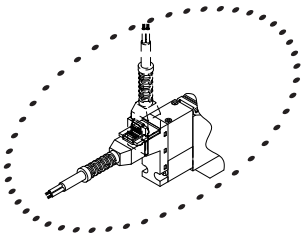
● E-connector type (E)

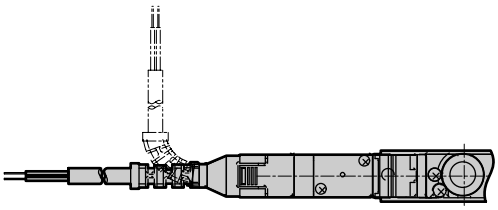


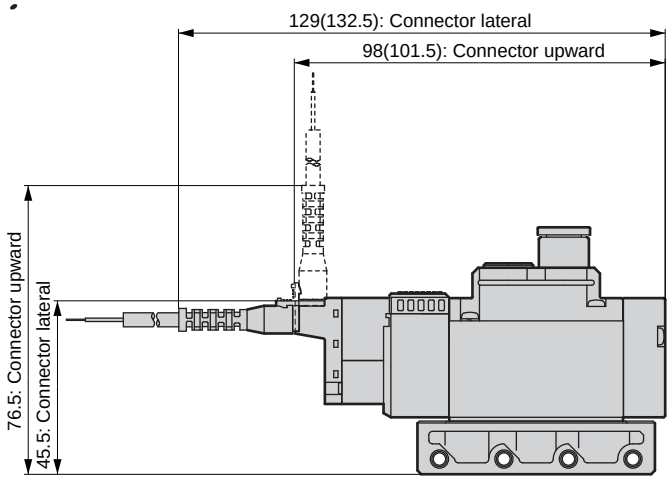


Note: Values in ( ) are for 100 VAC

● EJ-connector type (E**J)

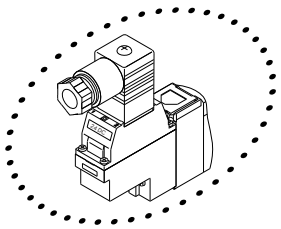


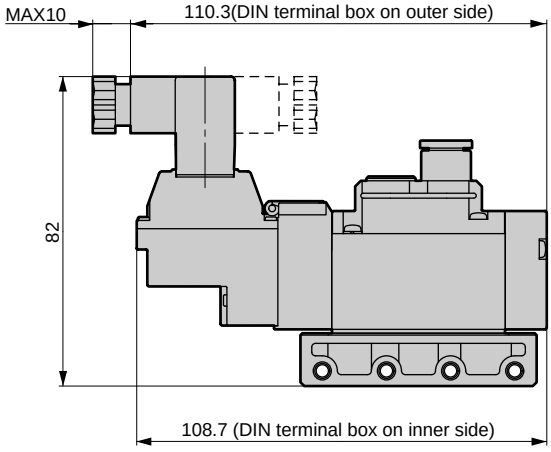




Note: Values in ( ) are for 100 VAC

● DIN terminal box type (B)



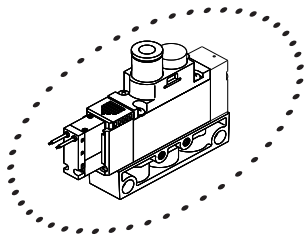


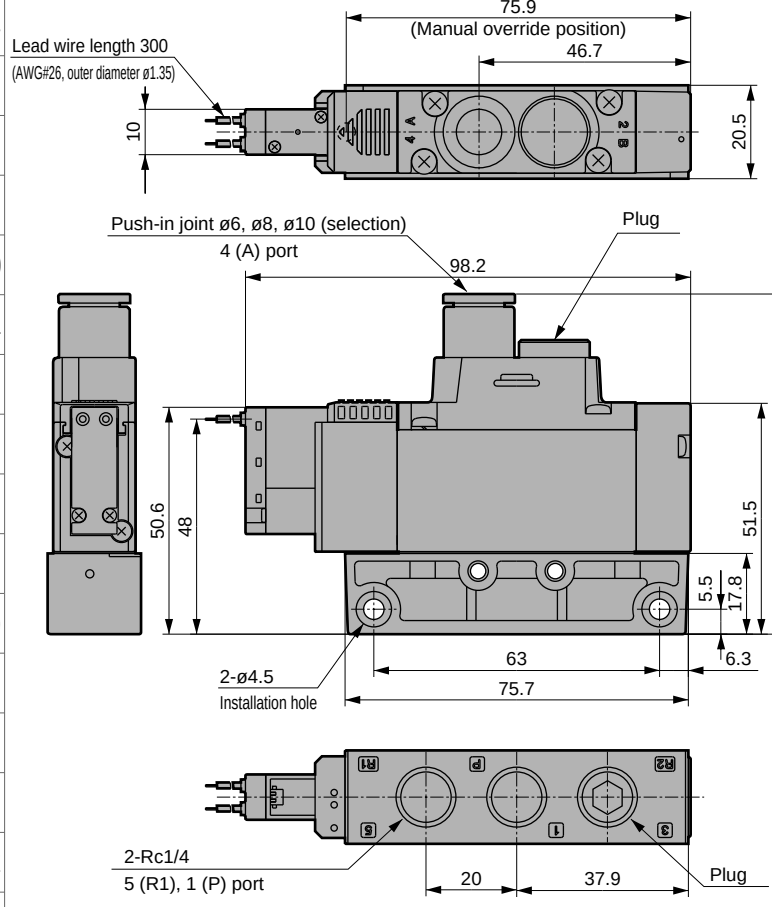
Note: The DIN terminal box assembly is shipped facing inward.

Dimensions CAD

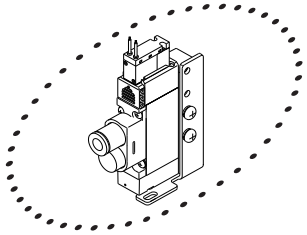
3GA310

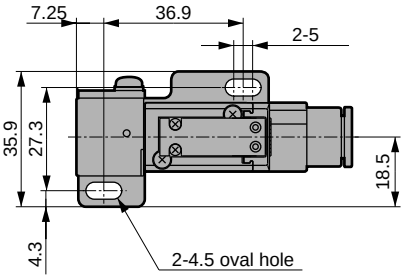
● 2-position single solenoid normally closed grommet lead wire (blank)

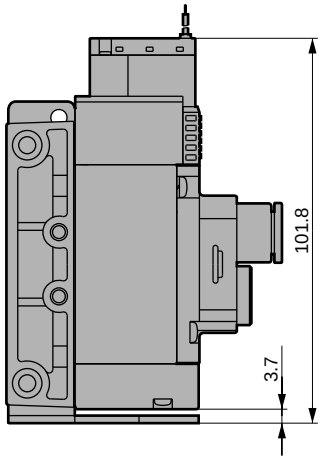




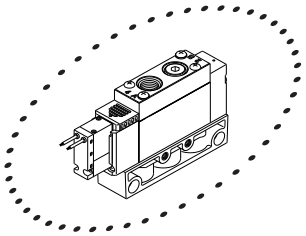
● Mounting plate type (P)

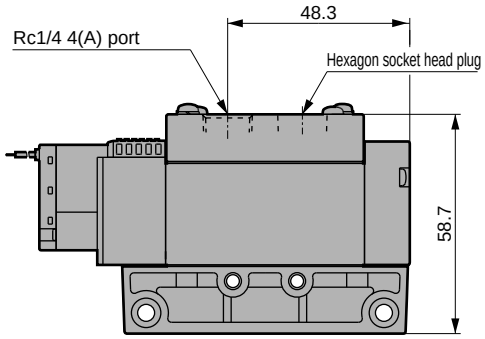






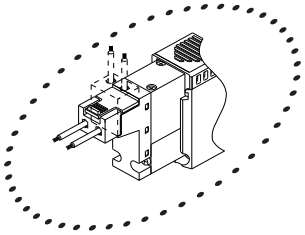
● RC1/4 female thread type (08)

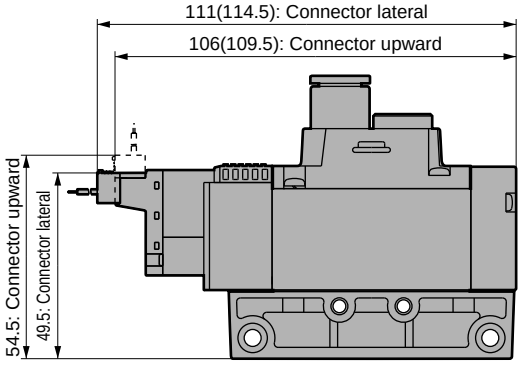




Dimensions

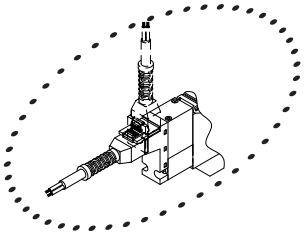
● E-connector type (E)

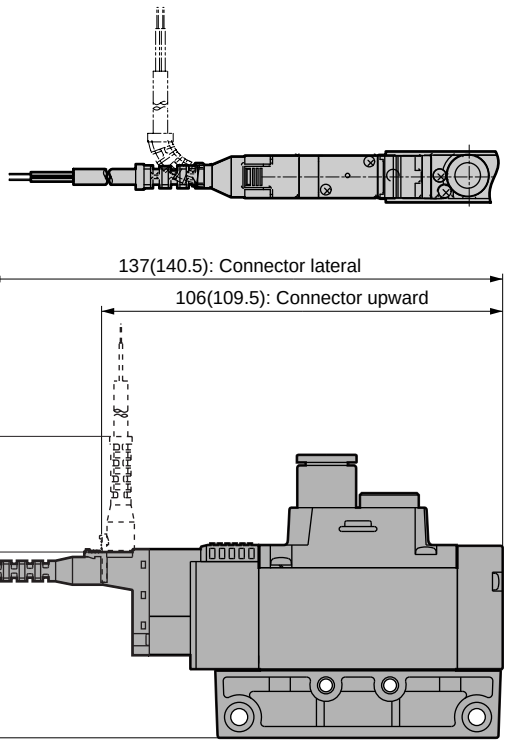




Note: Values in ( ) are for 100 VAC

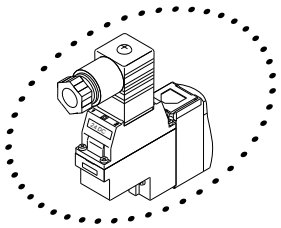
● EJ-connector type (E**J)

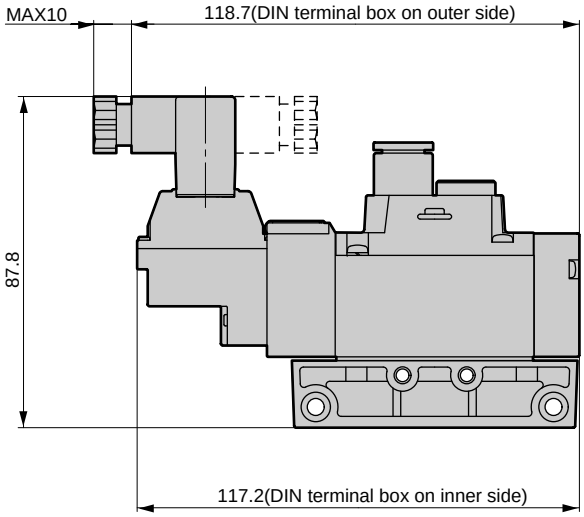




Note: Values in ( ) are for 100 VAC

● DIN terminal box type (B)



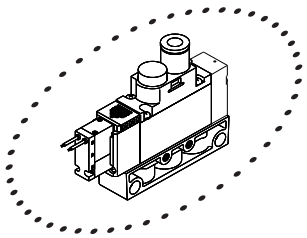


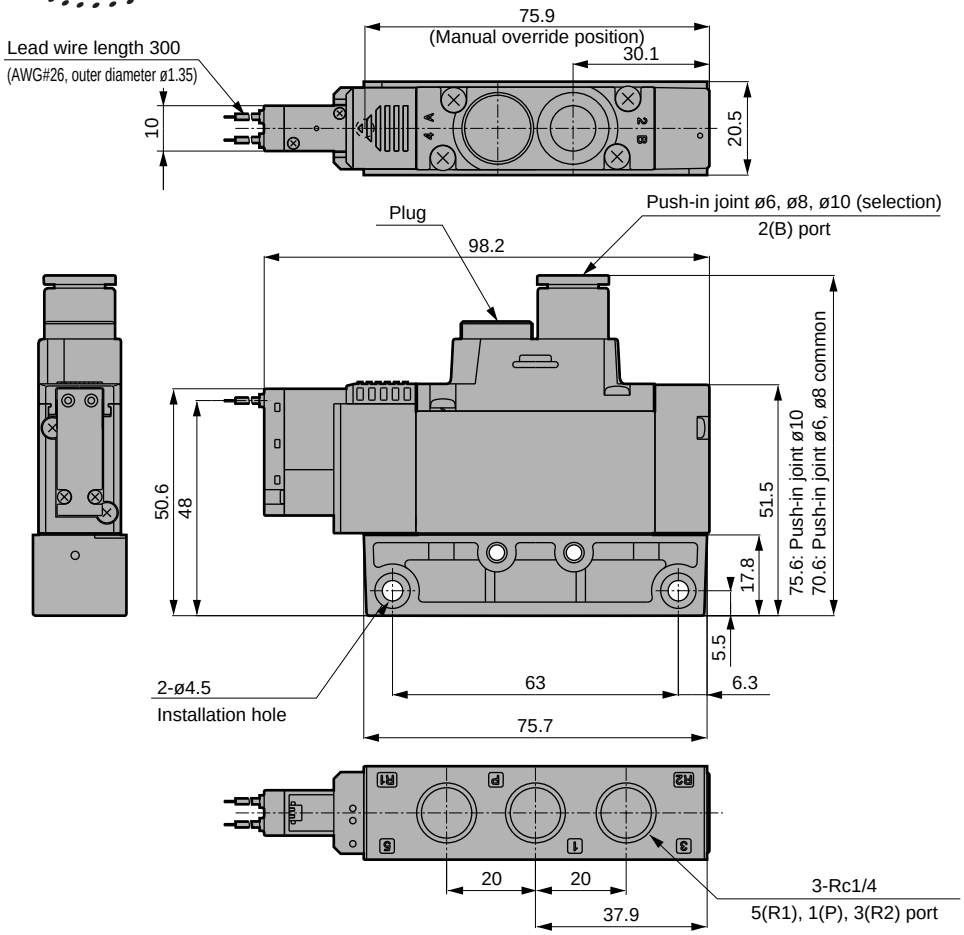
Note: The DIN terminal box assembly is shipped facing inward.

Dimensions

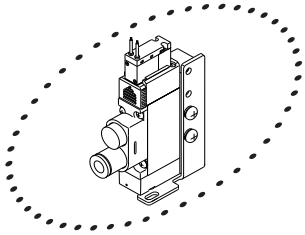
3GA3110

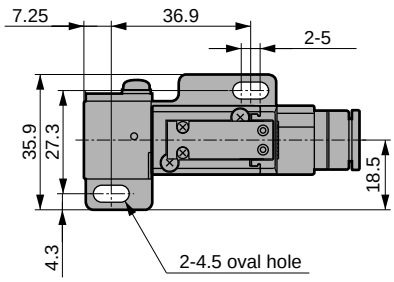
● 2-position single solenoid normally open grommet lead wire (blank)

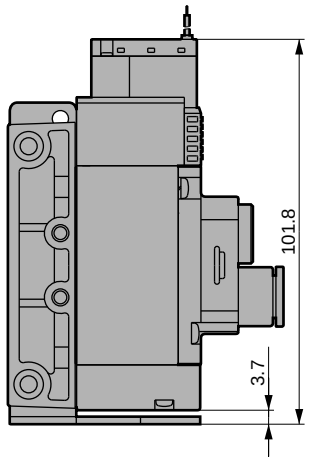




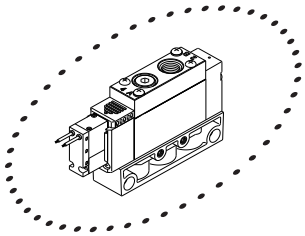
● Mounting plate type (P)

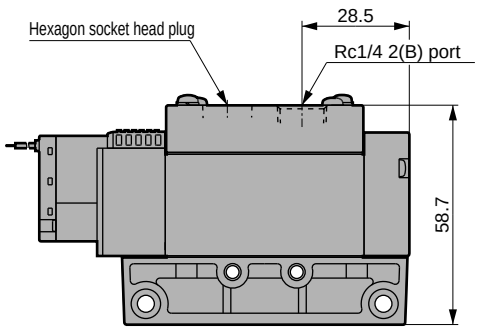






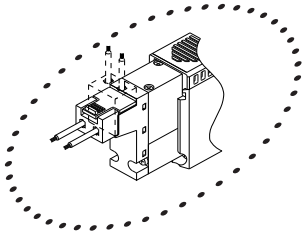
● RC1/4 female thread type (08)

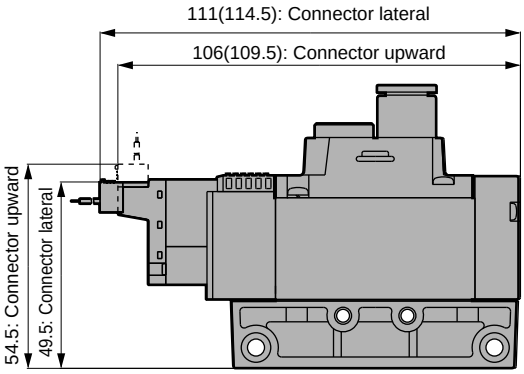




Dimensions

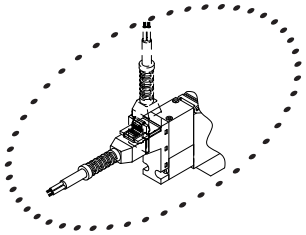
● E-connector type (E)

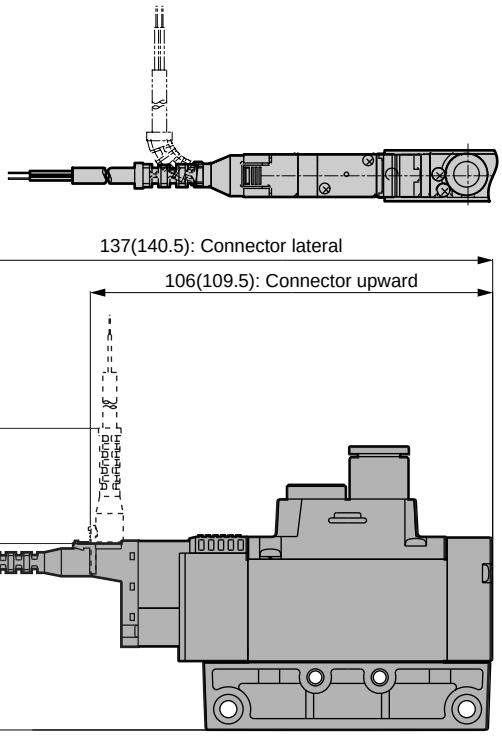




Note: Values in ( ) are for 100 VAC

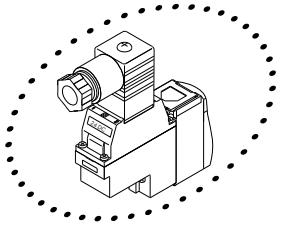
● EJ-connector type (E**J)

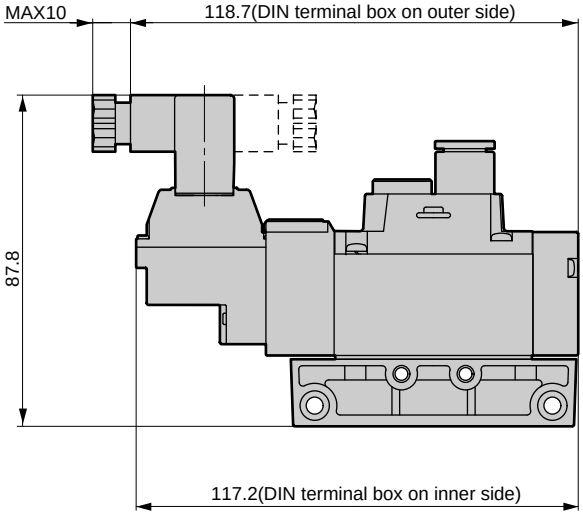




Note: Values in ( ) are for 100 VAC

● DIN terminal box type (B)



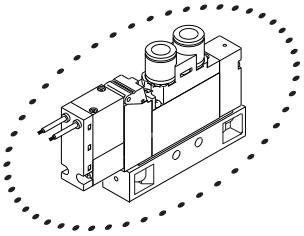


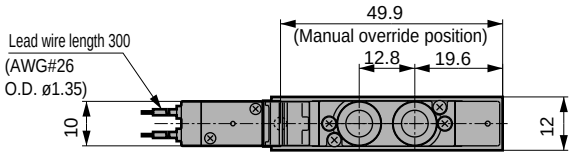
Note: The DIN terminal box assembly is shipped facing inward.

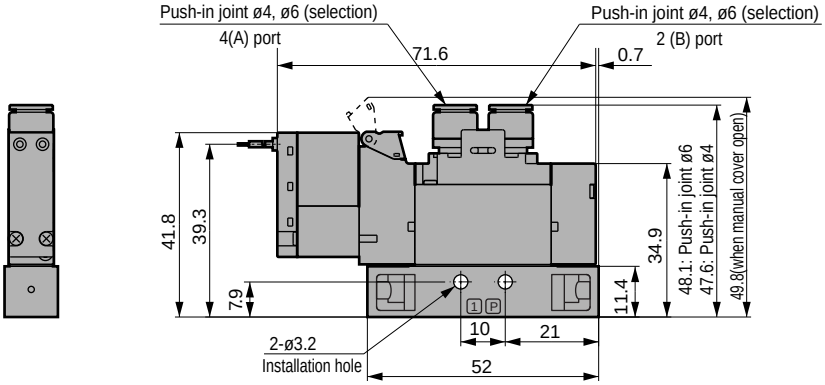
Dimensions CAD

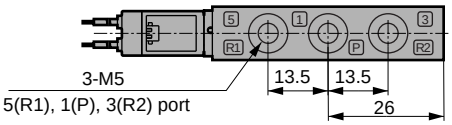
4GA110

● 2-position single solenoid grommet lead wire (blank)

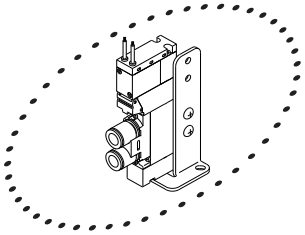


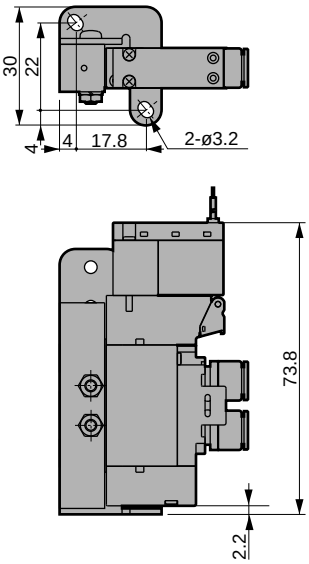




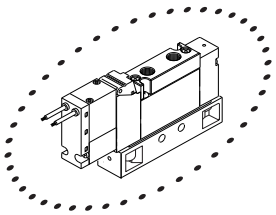


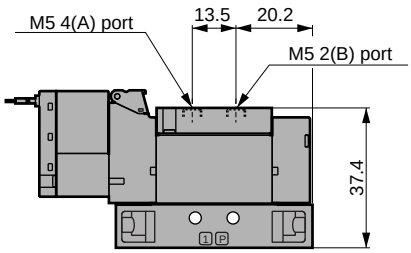
● Mounting plate type (P)





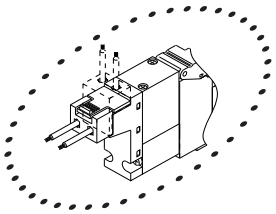
● M5 female thread type (M5)

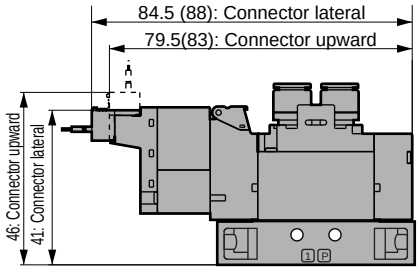




Dimensions

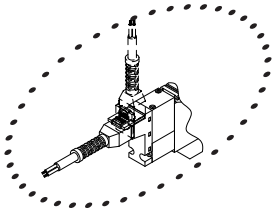
● E-connector type (E)

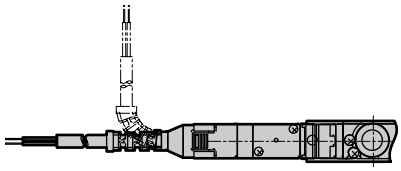


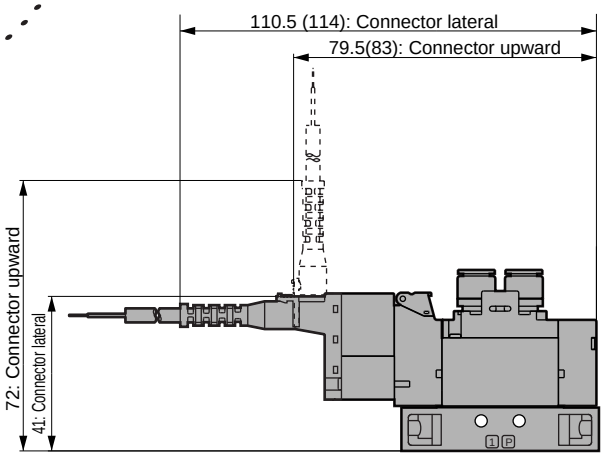


Note: Values in ( ) are for 100 VAC

● EJ-connector type (E**J)







Note: Values in ( ) are for 100 VAC

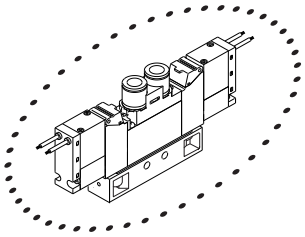
Dimensions CAD

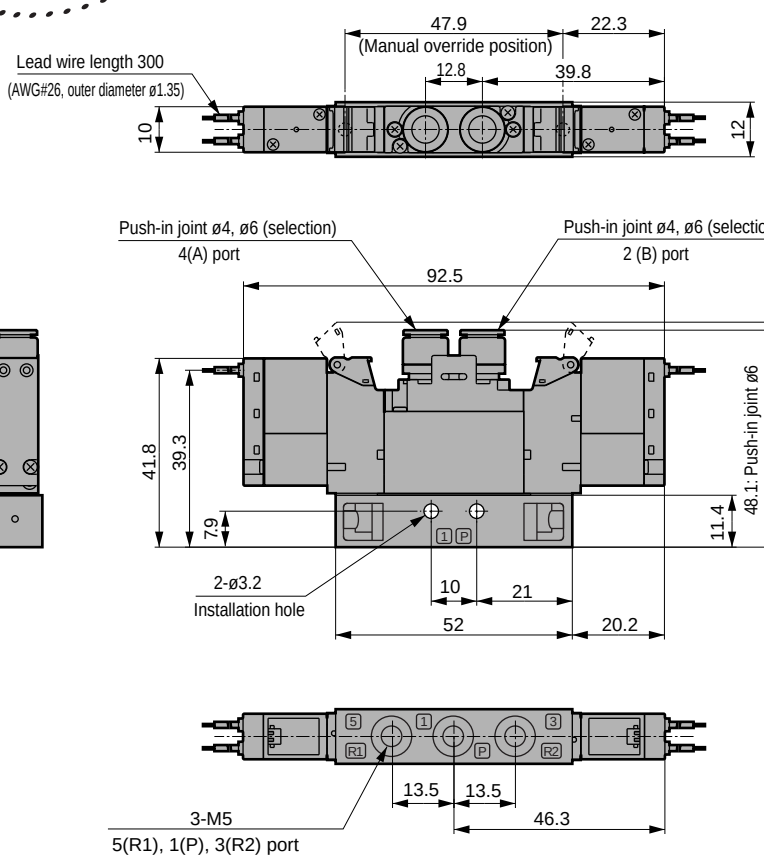
4GA120

● 2-position double solenoid grommet lead wire (blank)

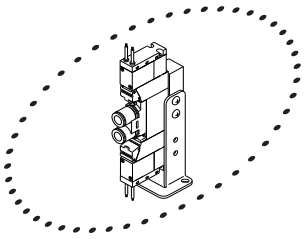
3GA1660

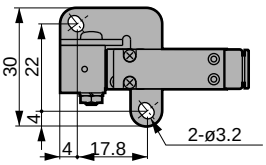
● Two 3 port valve integrated type grommet lead wire (blank)

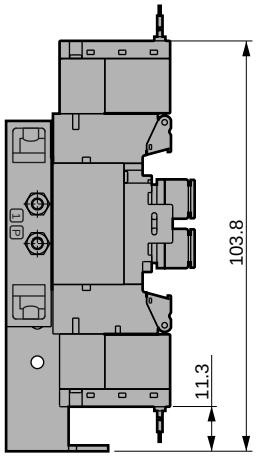




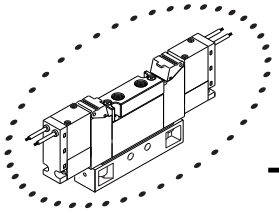
● Mounting plate type (P)

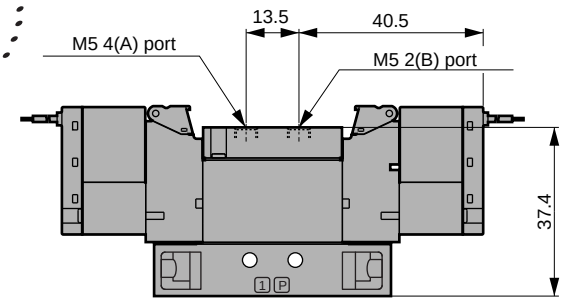






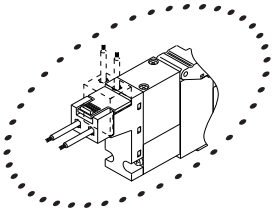
● M5 female thread type (M5)

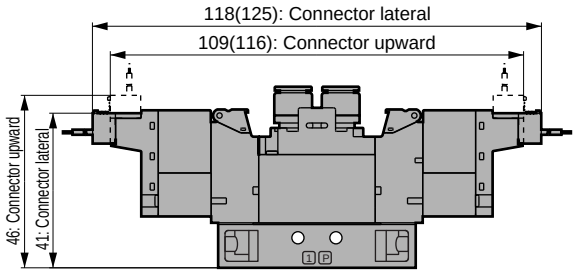




Dimensions

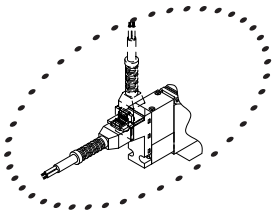
● E-connector type (E)

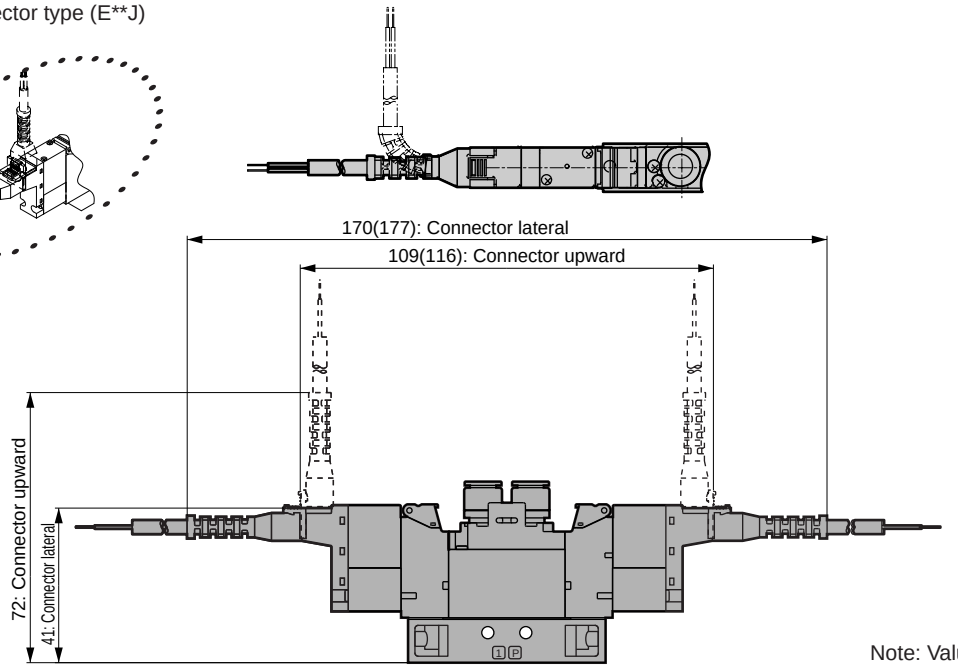




Note: Values in ( ) are for 100 VAC

● EJ-connector type (E**J)



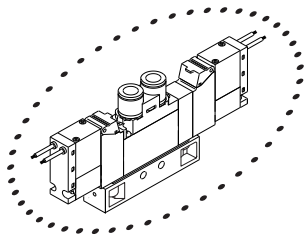


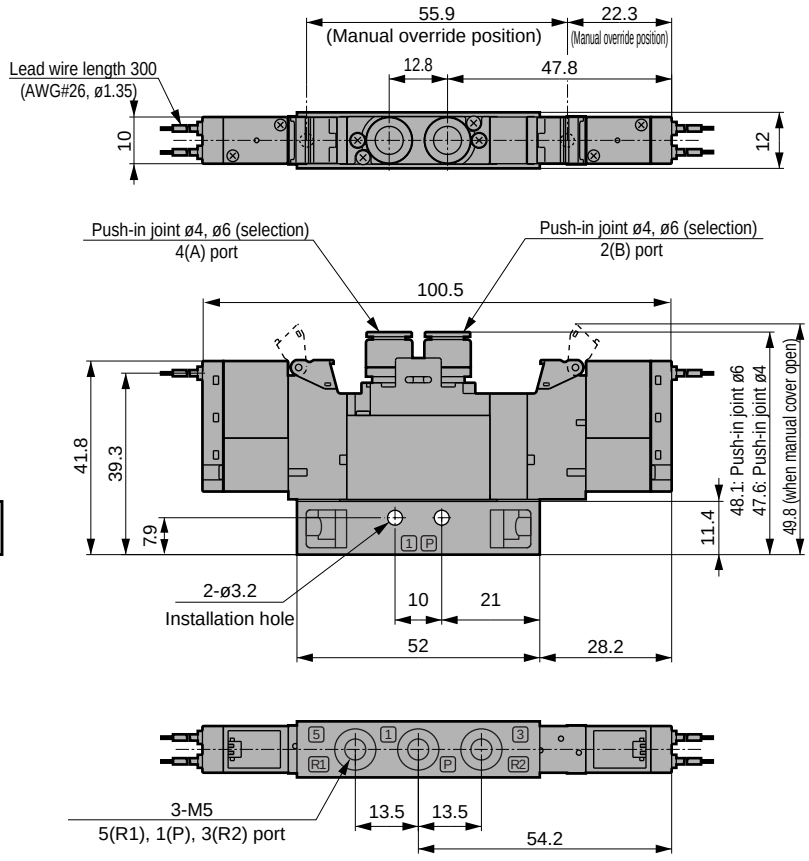
Note: Values in ( ) are for 100 VAC

Dimensions CAD

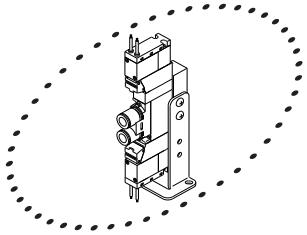
4GA1$^{3}_{4}_{5}$0

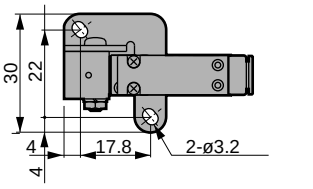
● 3-position grommet lead wire (blank)

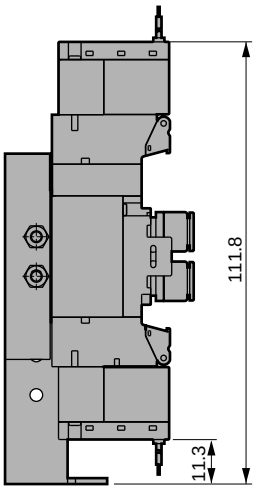




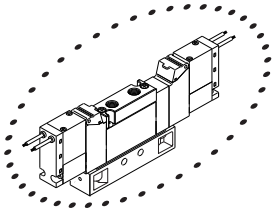
● Mounting plate type (P)

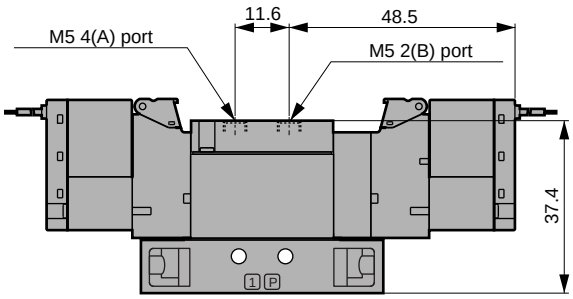






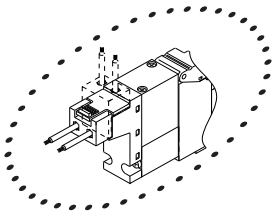
● M5 female thread type (M5)

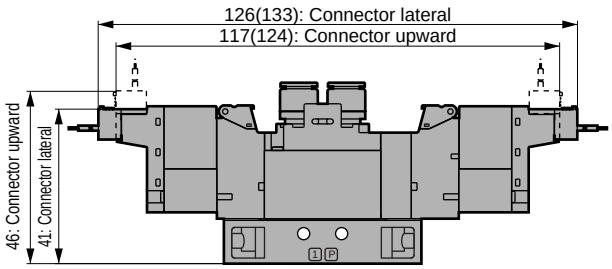




Dimensions

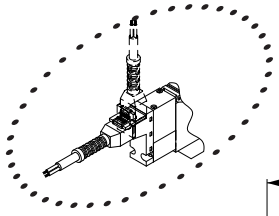
● E-connector type (E)

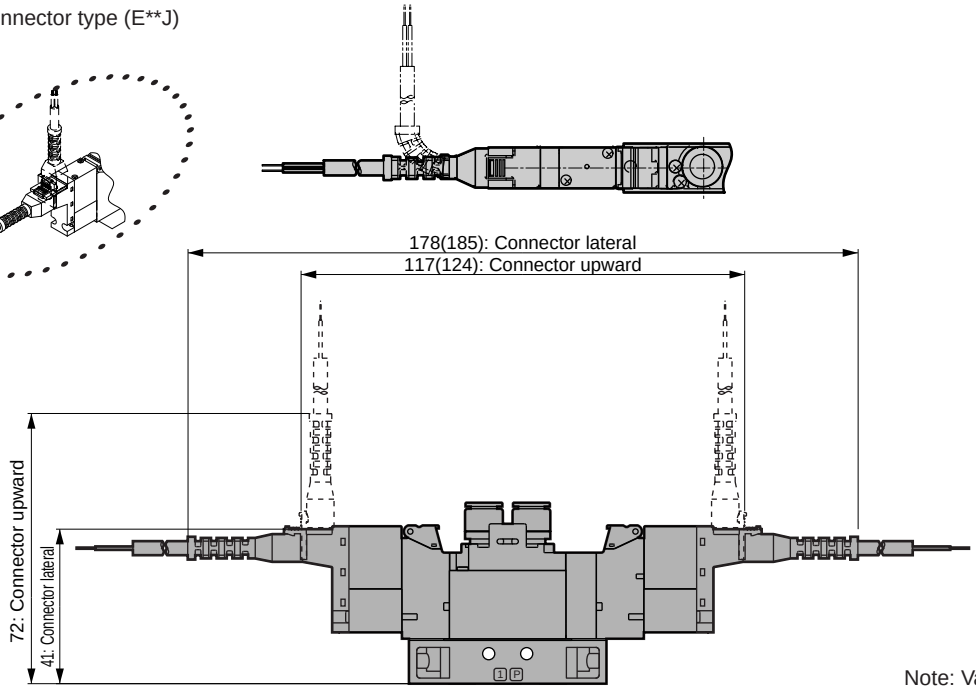




Note: Values in ( ) are for 100 VAC

● EJ-connector type (E**J)



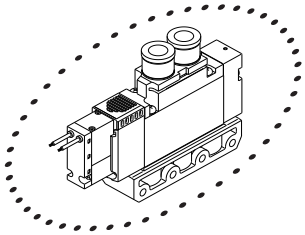


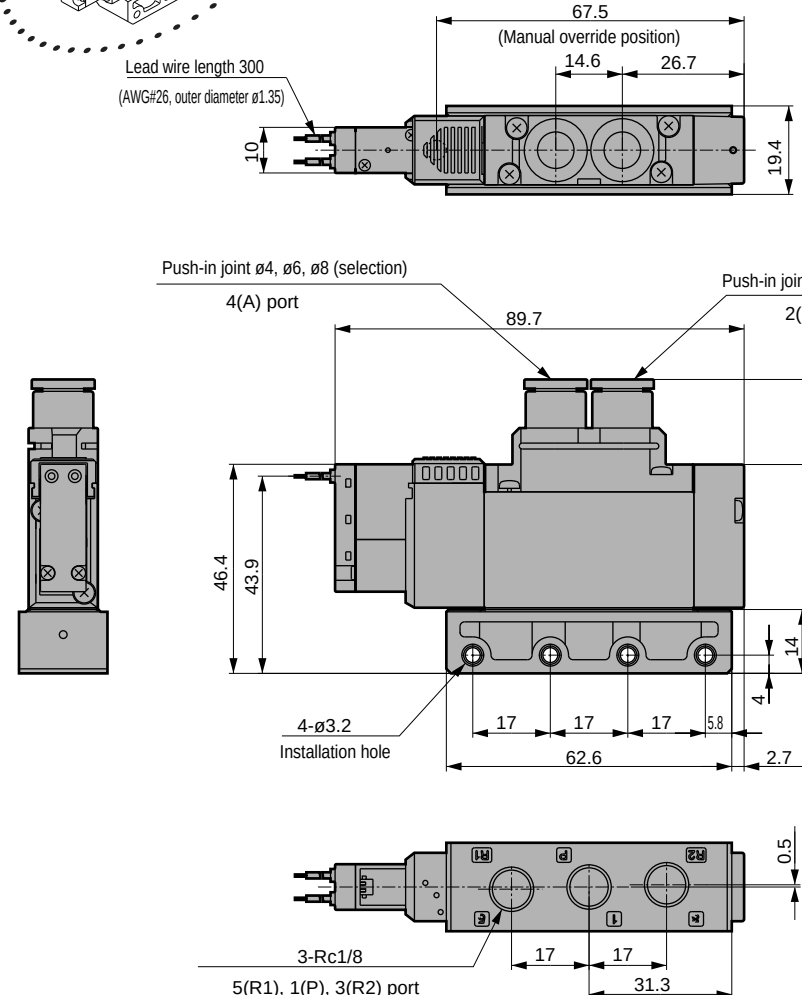
Note: Values in ( ) are for 100 VAC

Dimensions CAD

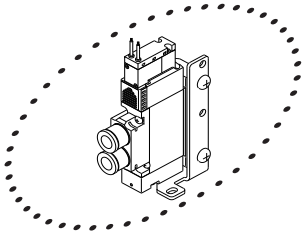
4GA210

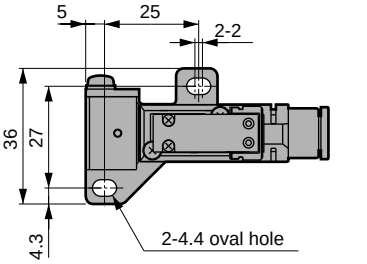
● 2-position single solenoid grommet lead wire (blank)

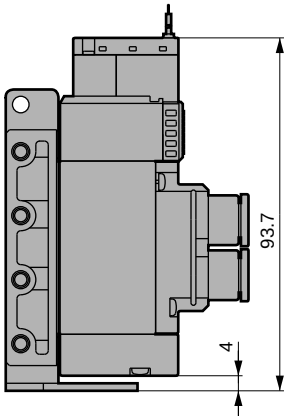




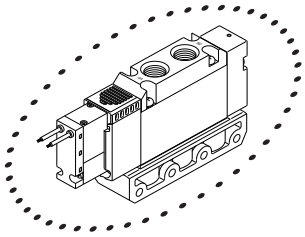
● Mounting plate type (P)

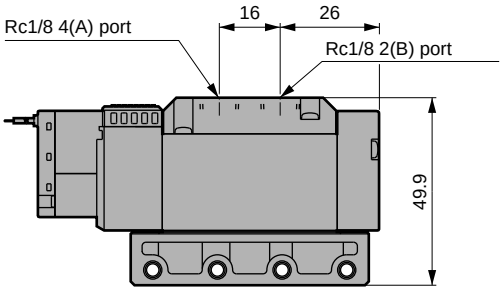






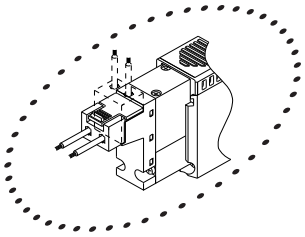
● Rc1/8 female thread type (06)

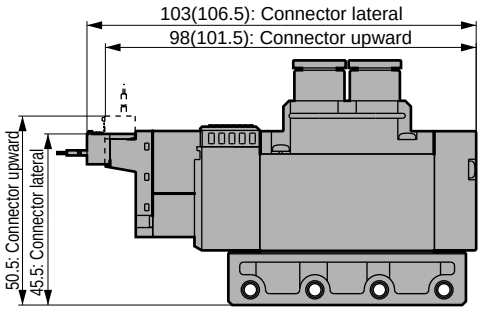




Dimensions

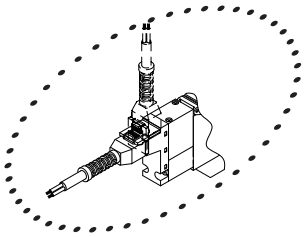
● E-connector type (E)

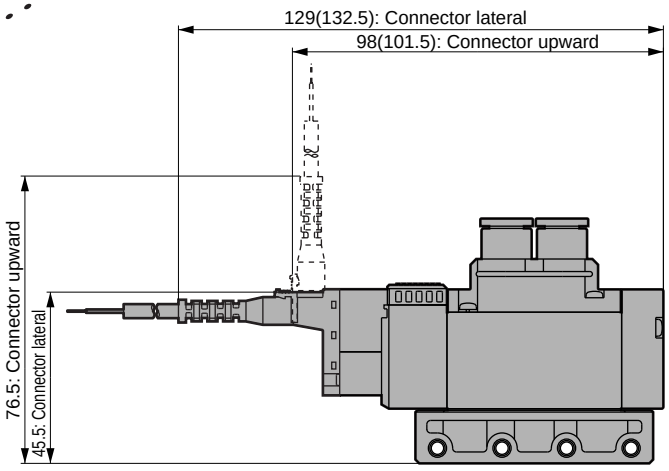




Note: Values in ( ) are for 100 VAC

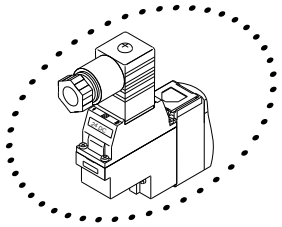
● EJ-connector type (E**J)

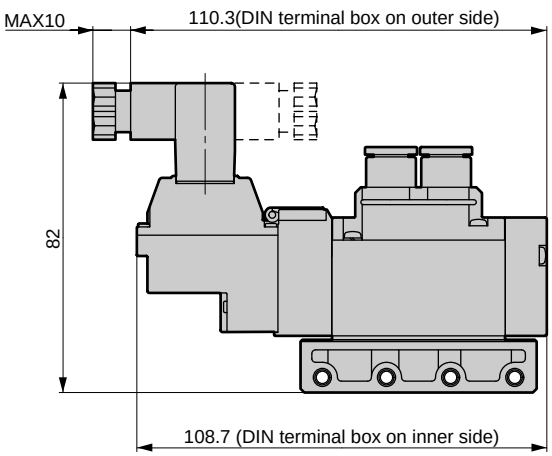




Note: Values in ( ) are for 100 VAC

● DIN terminal box type (B)





Note: The DIN terminal box assembly is shipped facing inward.

Dimensions CAD

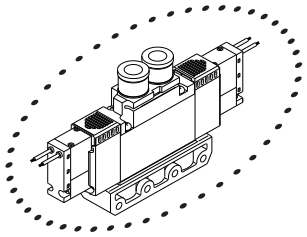
4GA220

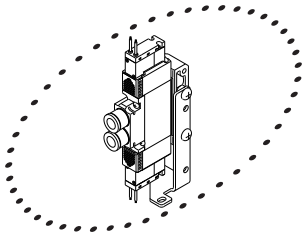
● 2-position double solenoid grommet lead wire (blank)

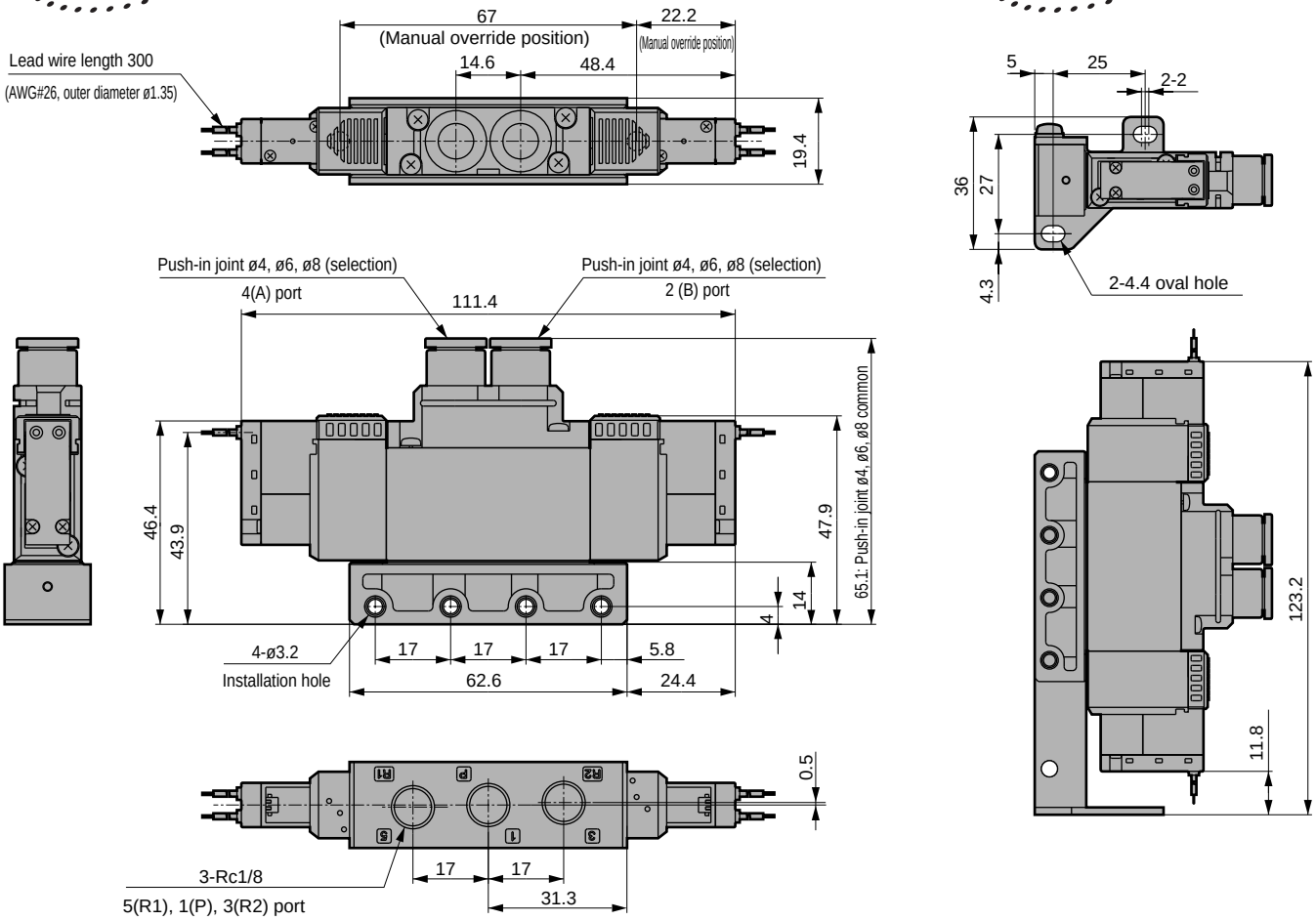
● Mounting plate type (P)

3GA2660

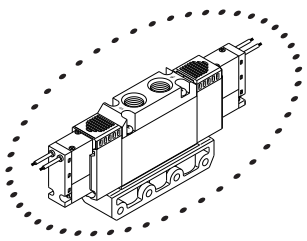
● Two 3 port valve integrated type grommet lead wire (blank)

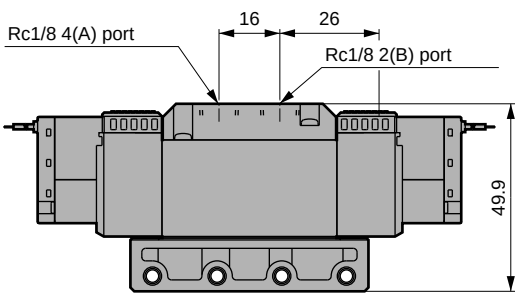






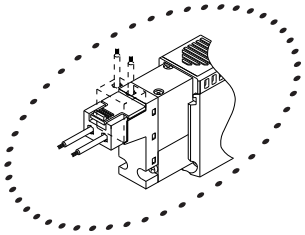
● Rc1/8 female thread type (06)

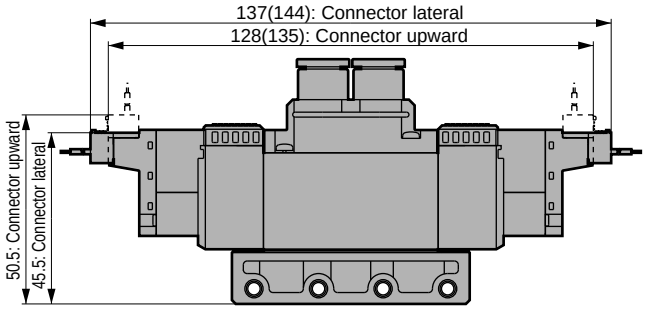




Dimensions

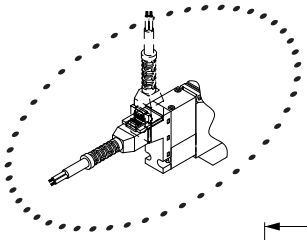
● E-connector type (E)

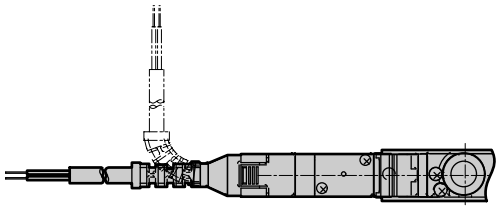


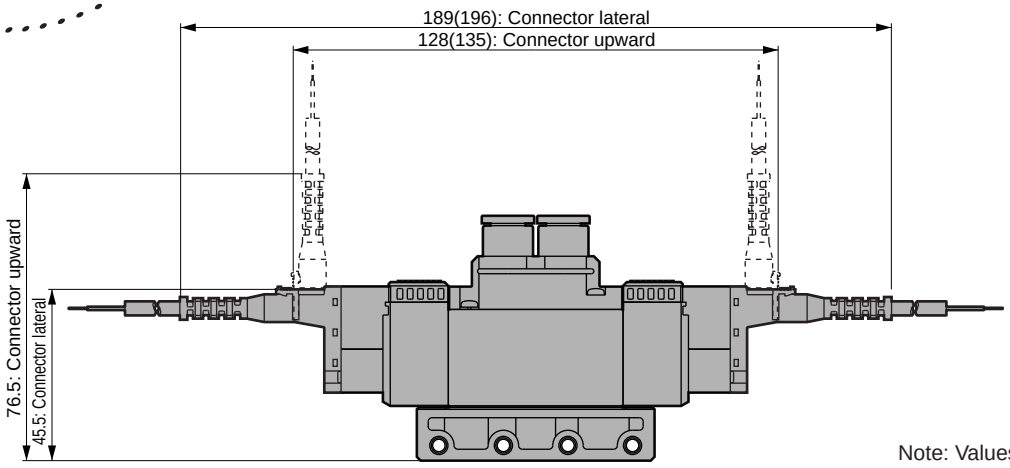


Note: Values in ( ) are for 100 VAC

● EJ-connector type (E**J)

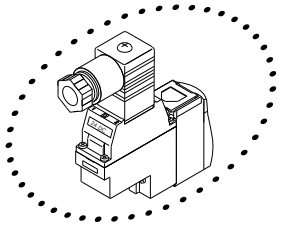


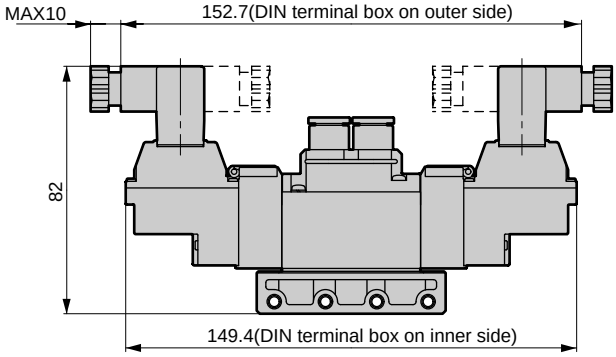




Note: Values in ( ) are for 100 VAC

● DIN terminal box type (B)



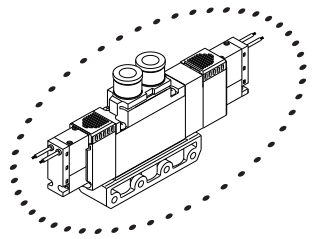


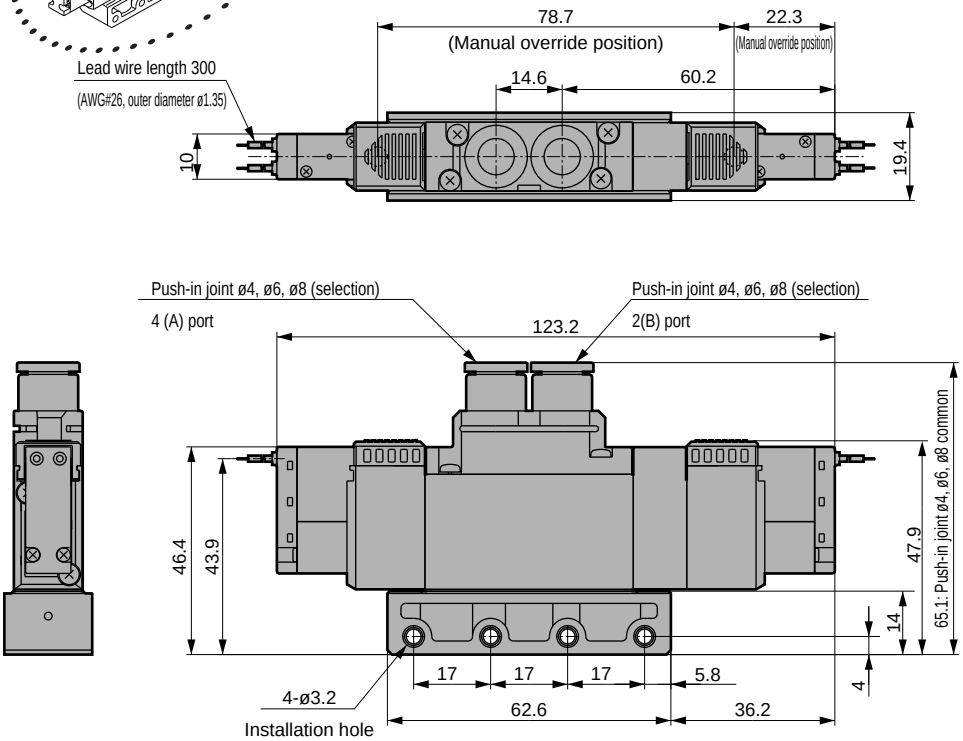
Note: The DIN terminal box assembly is shipped facing inward.

Dimensions CAD

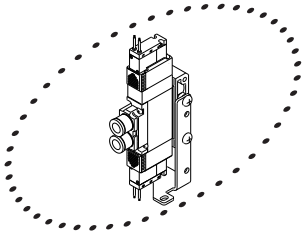
4GA2$^{3}_{4}$$^{4}_{5}$0

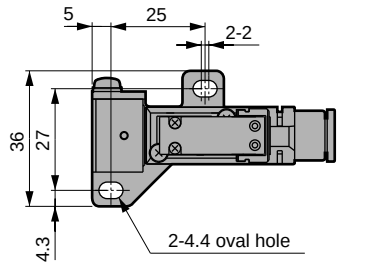
● 3-position grommet lead wire (blank)

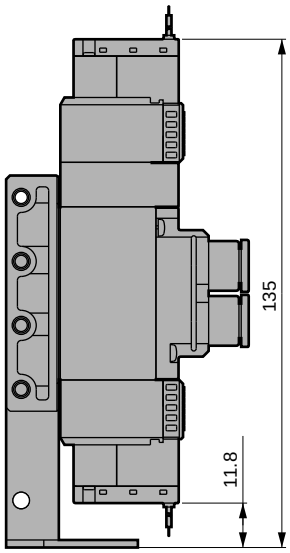




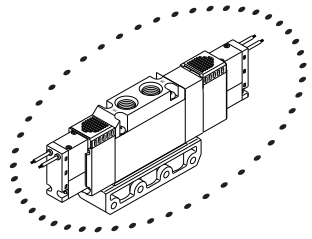
● Mounting plate type (P)

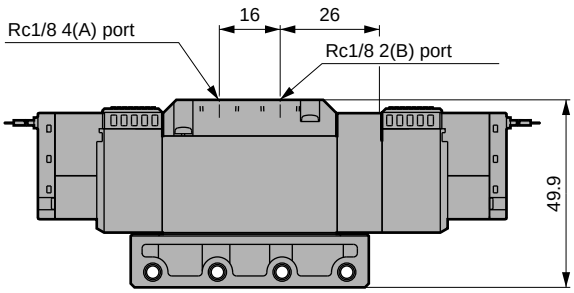






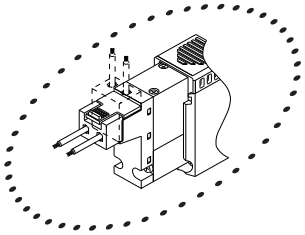
● Rc1/8 female thread type (06)



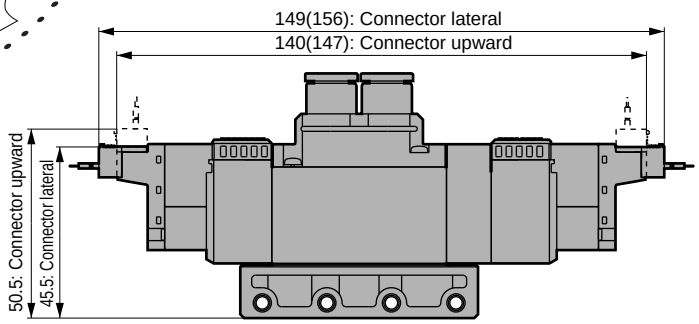


Dimensions

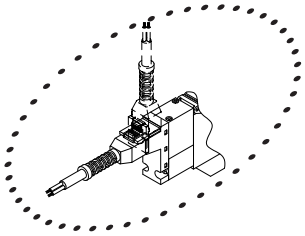
● E-connector type (E)

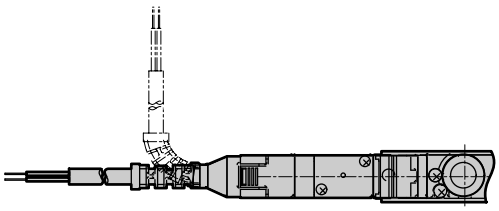


Note: Values in ( ) are for 100 VAC

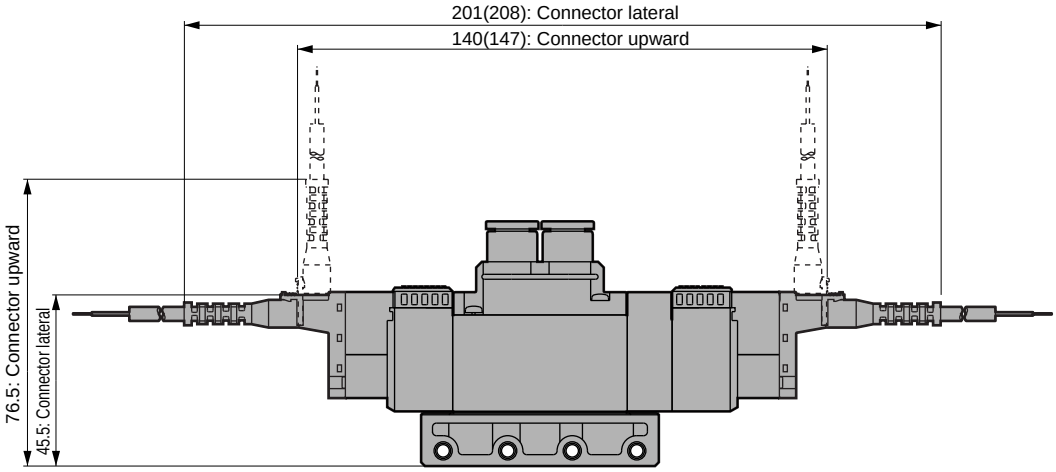


● EJ-connector type (E**J)

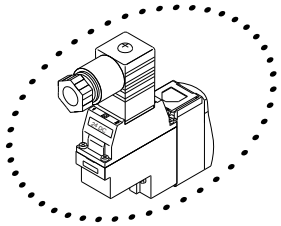


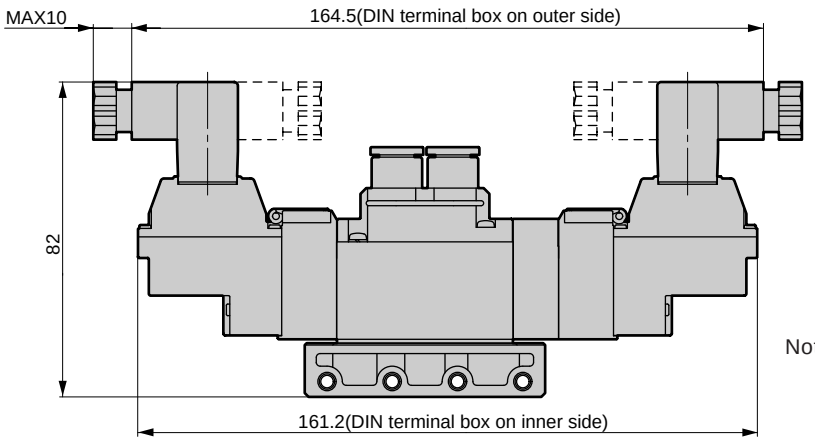


Note: Values in ( ) are for 100 VAC



● DIN terminal box type (B)



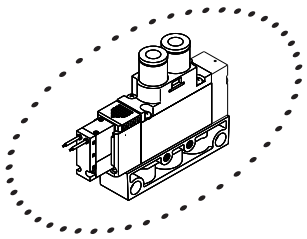


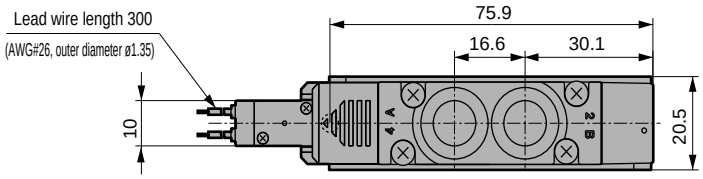
Note: The DIN terminal box assembly is shipped facing inward.

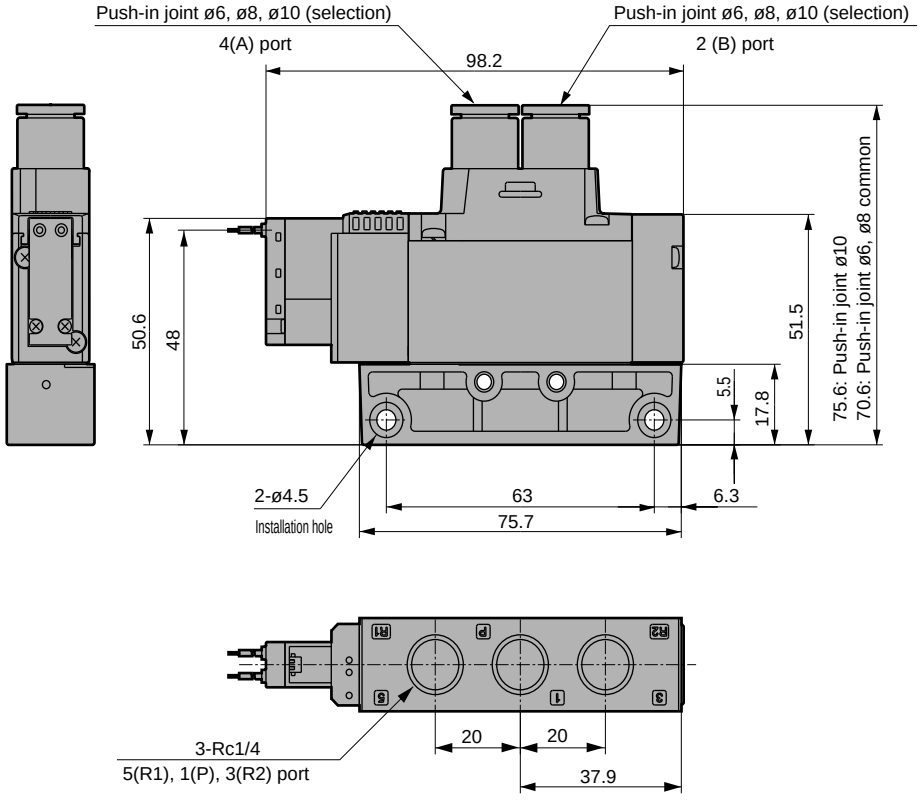
Dimensions

4GA310

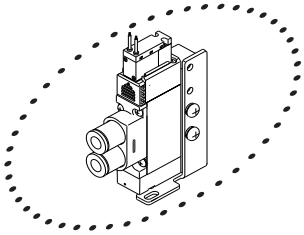
● 2-position single solenoid grommet lead wire (blank)

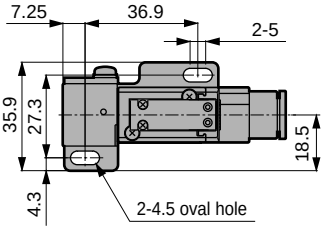


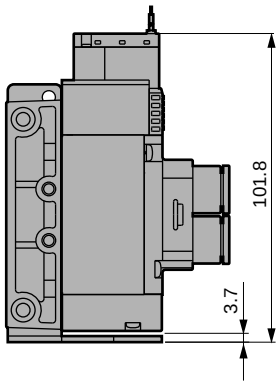




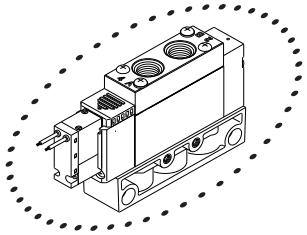
● Mounting plate type (P)

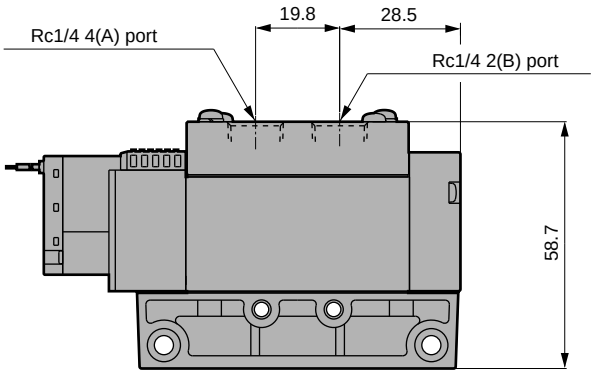






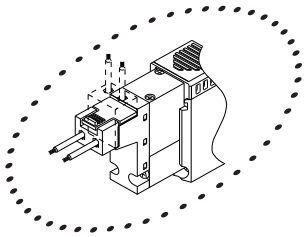
● RC1/4 female thread type (08)

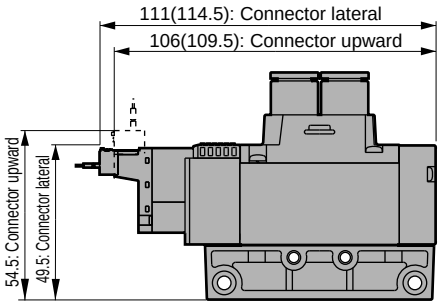




Dimensions

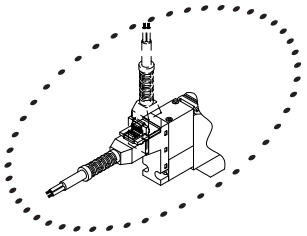
● E-connector type (E)

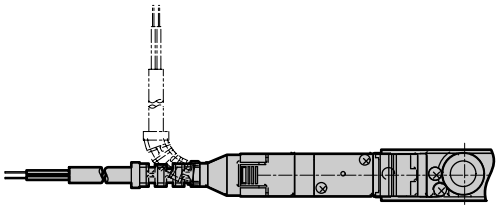


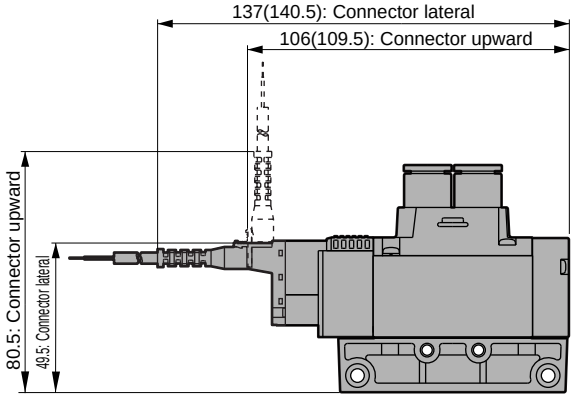


Note: Values in ( ) are for 100 VAC

● EJ-connector type (E**J)

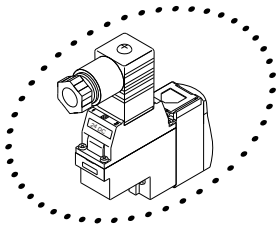


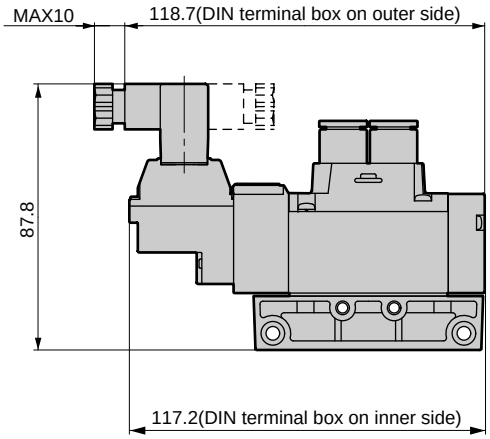




Note: Values in ( ) are for 100 VAC

● DIN terminal box type (B)



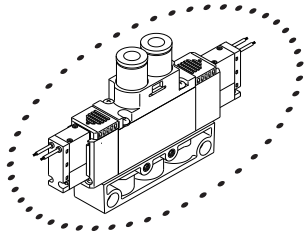


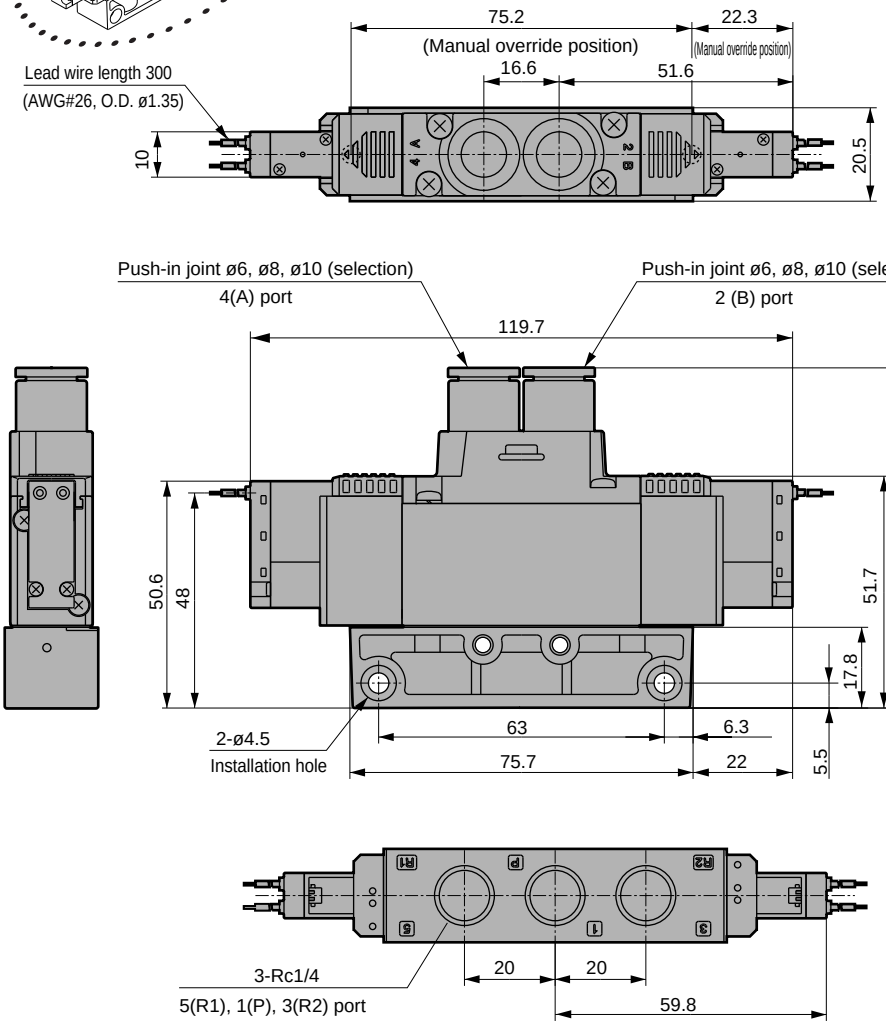
Note: The DIN terminal box assembly is shipped facing inward.

Dimensions CAD

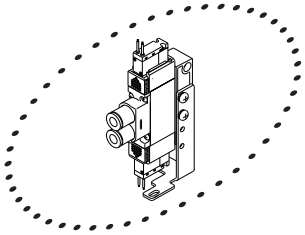
4GA320

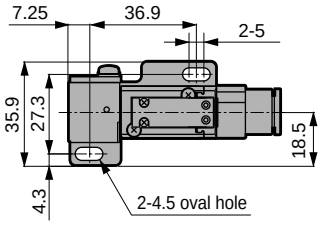
● 2-position double solenoid grommet lead wire (blank)

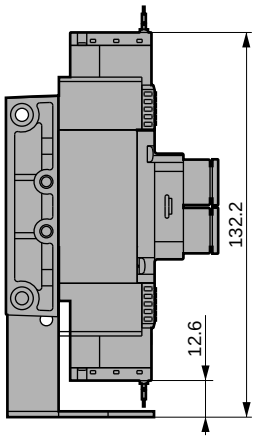




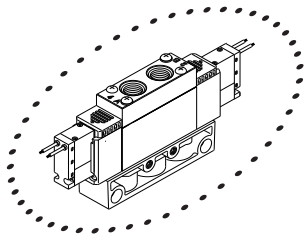
● Mounting plate type (P)

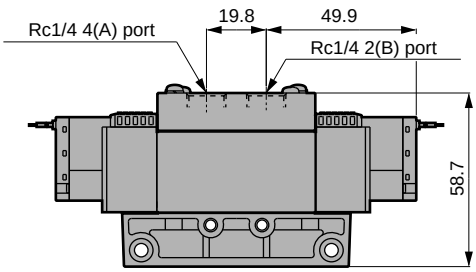






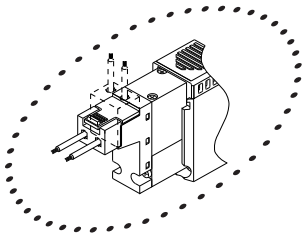
● RC1/4 female thread type (08)

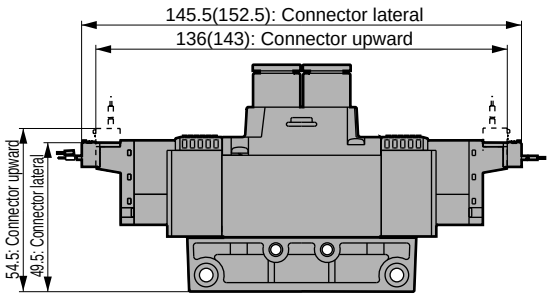




Dimensions

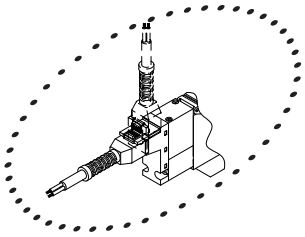
● E-connector type (E)

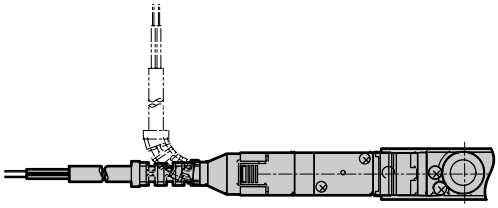


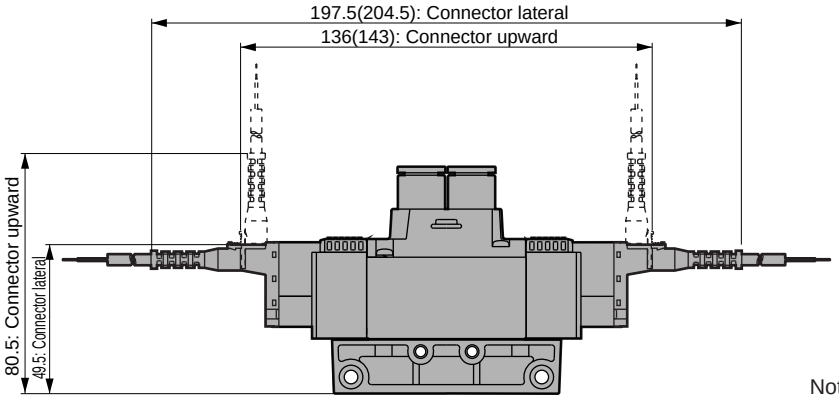


Note: Values in ( ) are for 100 VAC

● EJ-connector type (E**J)

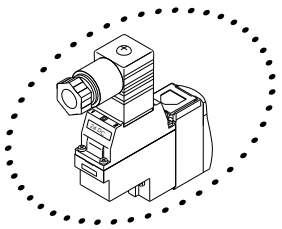


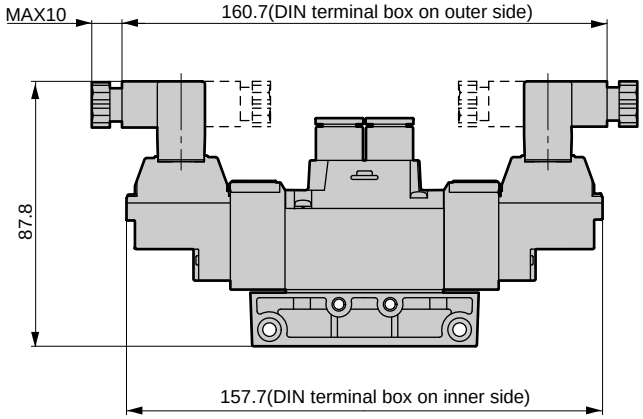




Note: Values in ( ) are for 100 VAC

● DIN terminal box type (B)



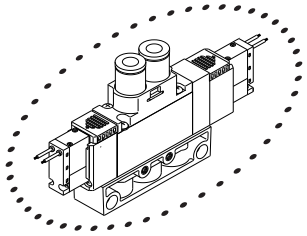


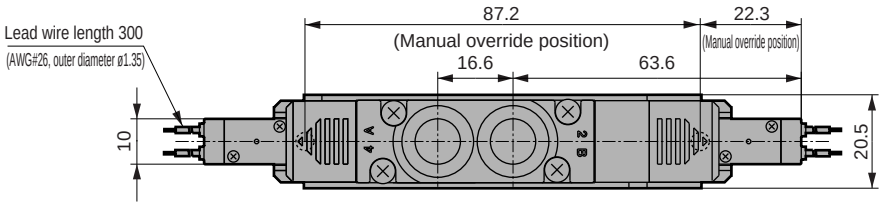
Note: The DIN terminal box assembly is shipped facing inward.

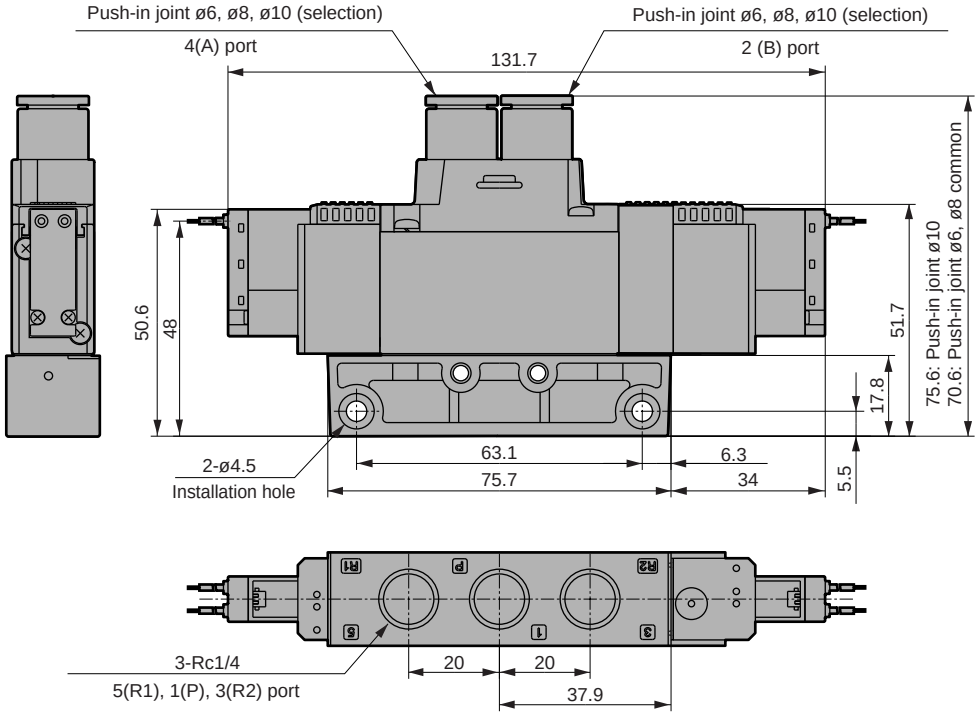
Dimensions CAD

4GA3$^{3}_{5}$0

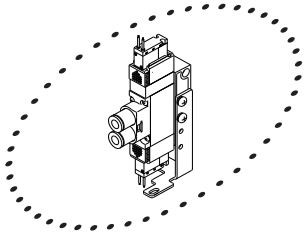
● 3-position grommet lead wire (blank)

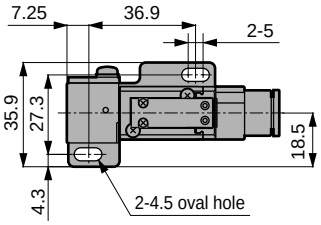


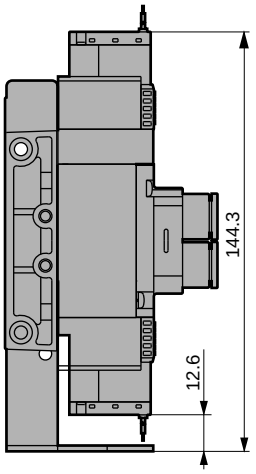




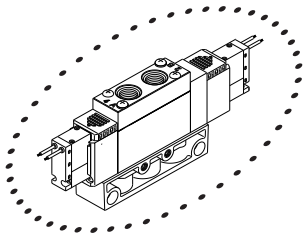
● Mounting plate type (P)

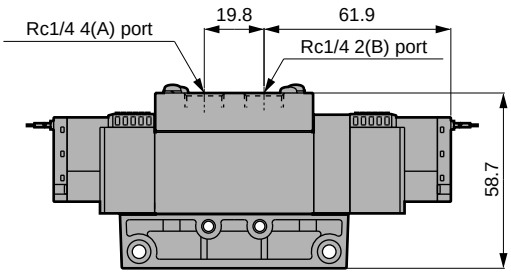






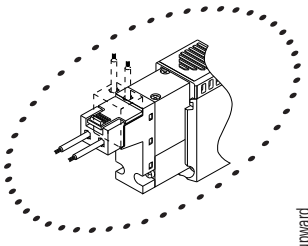
● RC1/4 female thread type (08)

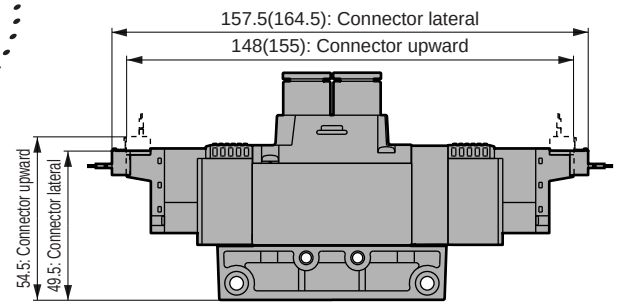




Dimensions

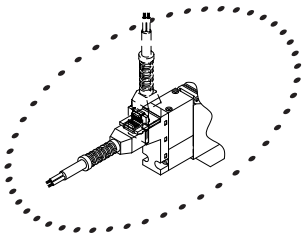
● E-connector type (E)

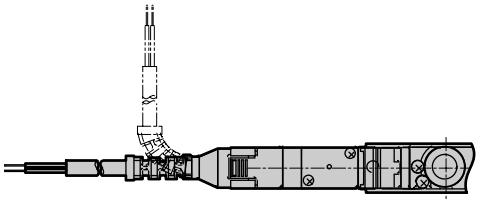


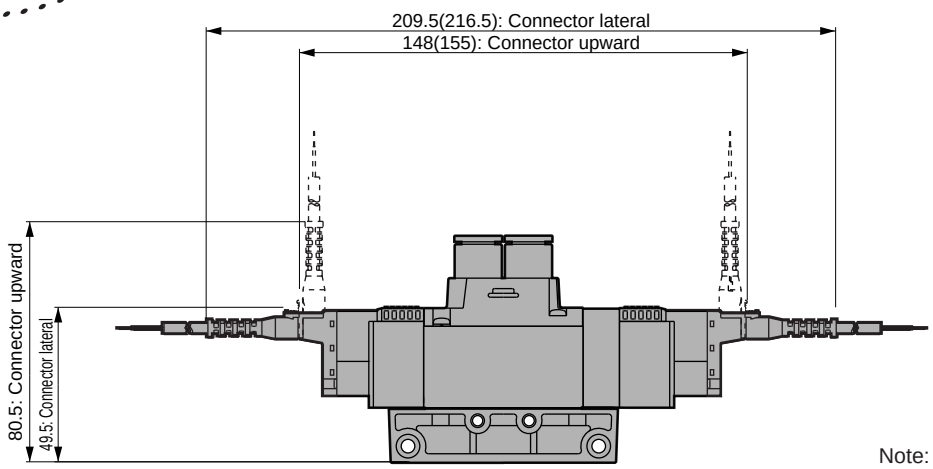


Note: Values in ( ) are for 100 VAC

● EJ-connector type (E**J)

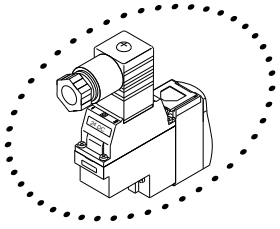


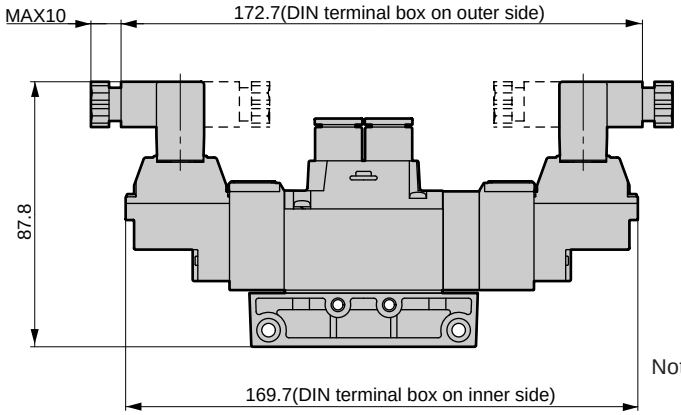




Note: Values in ( ) are for 100 VAC

● DIN terminal box type (B)





Note: The DIN terminal box assembly is shipped facing inward.

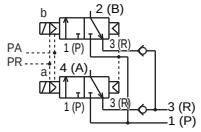
Discrete valve
Sub-base porting
3GB1/2, 4GB1/2/3 Series

● Applicable cylinder bore size: 20 to 100 mm

Refer to Intro 17 for details.

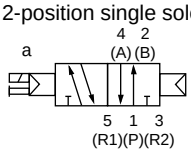
JIS symbol

● Two 3 port valve integrated type
(A side valve: N.C., B side valve: N.C.)

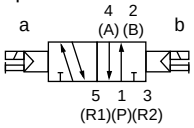


● 5 port valve

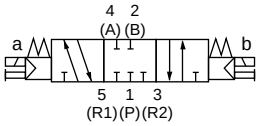
2-position single solenoid



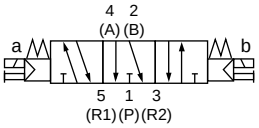
2-position double solenoid



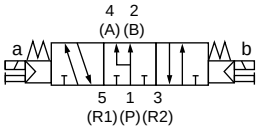
3-position
all ports closed



3-position A/B/R connection



3-position P/A/B connection



Common specifications

Descriptions		
Type of valve and operation method		Pilot operated soft spool valve
Working fluid		Compressed air
Max. working pressure MPa		0.7
Min. working pressure MPa		0.2(2-position, 3-position)
Withstanding pressure MPa		1.05
Ambient temperature °C		-5 to 55 (no freezing)
Fluid temperature °C		5 to 55
Manual override		Non-locking/locking common type
Pilot exhaust method	Internal pilot	Main valve, pilot operated valve common exhaust type
	External pilot	Main valve, pilot operated valve individual exhaust type
Lubrication Note 1		Not required
Protective structure Note 2		Dust proof
Vibration/impact m/s^2		50 or less / 300 or less
Working environment		Containing corrosive gas is impermissible.

Note 1 Use the turbine oil Class 1 ISO VG32 if lubricated. Excessive or intermittent lubrication results in instable operation.
Note 2 Check that water drops or oil, etc., do not come into contact. IP65 (jet-proof type) is used for DIN terminal box specifications. Note that the box must be fixed using the specified adaptive cord outer diameter and tightening torque.
Note 3 The working pressure range is 0 to 0.7 MPa when the external pilot (option symbol: K) is selected. Set the external pilot pressure between 0.2 and 0.7 MPa.

Electric specifications

Descriptions		
Rated voltage V	DC	12,24
	AC	100
Rated voltage fluctuation range		±10%
Holding current A Note 4	24 VDC	0.023 (0.025)
	12 VDC	0.046 (0.050)
	100 VAC	0.010 (0.012)
Power consumption W Note 4	24 VDC	0.55 (0.6)
	12 VDC	0.55 (0.6)
Apparent power VA	100 VAC	1.0 (1.2)
Heat proof class		B
Temperature rise °C		50
Surge suppressor		Option
Indicator		With indicator light (option)

Note 4 The values in ( ) include the light.

Individual specifications

Descriptions		4GB1	4GB2	4GB3
Port size	A/B port	Rc1/8	Rc1/4	Rc1/4, Rc3/8
	P/R1/R2 port	Rc1/8	Rc1/4	Rc1/4, Rc3/8

G threads and NPT threads are available for the piping port threads. Contact CKD for information.

Descriptions			3GB1, 4GB1 ø		3GB2, 4GB2		4GB3	
			ON	OFF	ON	OFF	ON	OFF
Response time ms	Two 3 port valves integrated type		9	12	12	29	-	-
	2-position	Single solenoid	12	12	19	19	25	28
		Double solenoid	9	-	18	-	24	-
	3-position	A/B/R connection	8	15	17	30	23	45

Values include the lamp surge suppressor. Response time is the value at an air supply of 0.5 MPa, 20°C, and oil-free. Changes based on pressure and quality of oil.

Descriptions				4GB1	4GB2	4GB3
Weight g	2-position	Single solenoid	Grommet lead wire	79 (37)	154 (72)	214 (95)
			E-connector	81 (39)	156 (74)	216 (97)
			DIN terminal box	-	176 (94)	236 (117)
		Double solenoid	Grommet lead wire	94 (52)	169 (87)	230 (111)
			E-connector	98 (56)	173 (91)	234 (115)
			DIN terminal box	-	213 (131)	274 (155)
	3-position	All ports closed	Grommet lead wire	95 (53)	180 (98)	239 (120)
			E-connector	99 (57)	184 (102)	243 (124)
			DIN terminal box	-	224 (141)	283 (164)

Values in ( ) do not include the piping adapter. The E-connector includes the socket assembly (with 300 mm lead). When using the EJ-connector, add 16 g per connector to the E connector value.

Flow characteristics

Model no.	Solenoid position		P ⟶ A/B		A/B ⟶ R1/R2	
			C (dm³/ (s·bar))	b	C (dm³/ (s·bar))	b
3GB1	Two 3 port valves integrated type		0.92	0.08	1.0	0.11
3GB2	Two 3 port valves integrated type		1.7	0.42	2.1	0.32
4GB1	2-position		1.3	0.27	1.2	0.15
	3-position	All ports closed	1.1	0.31	1.1	0.29
		A/B/R connection	1.1	0.31	1.3	0.29
		P/A/B connection	1.4	0.30	1.1	0.26
4GB2	2-position		2.6	0.20	2.5	0.15
	3-position	All ports closed	2.3	0.32	2.2	0.19
		A/B/R connection	2.2	0.23	2.4	0.14
		P/A/B connection	2.4	0.10	2.3	0.24
4GB3	2-position		4.3	0.24	4.2	0.18
	3-position	All ports closed	3.3	0.40	3.2	0.35
		A/B/R connection	3.3	0.36	4.2	0.28
		P/A/B connection	4.5	0.28	3.4	0.40

Note 1: Effective sectional area S and sonic conductance C are converted as S ≒ 5.0 x C.
Note 2: Values for the built-in check valve apply for the 2-position, two 3 port valve integrated type and A/B/R connection.

Ozone specifications • Coolant proof specifications

The specification can be selected with "E" option "A" in How to Order on page 132.

Clean room specifications (Catalog No. CB-033SA)

● Dust generation preventing structure for use in cleanrooms

** – VOLTAGE – P7*

3GB1/2, 4GB1/2/3 Series

Discrete valve; sub-base porting

How to order

4GB1 1 0 - 06 - E2 ( ) - ( )

3GB1 66 0 - 06 - E2 ( ) - ( )

Ⓐ Model No.

Ⓑ Solenoid position

Ⓒ Port size

Ⓓ Electric connection

Refer to page 89 for surge suppressor/indicator light circuit diagram.

Ⓔ Option

Ⓕ Voltage

Symbol	Descriptions	Ⓐ Model no. 3GB1	3GB2	4GB1	4GB2	4GB3
Ⓑ Solenoid position						
1	2-position single solenoid			●	●	●
2	2-position double solenoid			●	●	●
3	3-position all ports closed			●	●	●
4	3-position A/B/R connection			●	●	●
5	3-position P/A/B connection			●	●	●
66	Two 3 port valve integrated type A side valve: normally closed B side valve: normally closed Note 3	●	●			
Ⓒ Port size						
Port	Port A/B	P/R1/R2 port (2)=Rc1/8 (3)=Rc1/4 (4)=Rc3/8				
06	Rc1/8	(2)		(2)		
08	Rc1/4		(3)		(3)	(3)
10	Rc3/8					(4)
Ⓓ Electric connection						
Blank	Grommet lead wire (300mm) Note 1	●	●	●	●	●
B	DIN terminal box (Pg7) w/ surge suppressor and indicator light		●		●	●
E-connector (upward/lateral common)						
E0	Lead wire (300 mm)	●	●	●	●	●
E00	Lead wire (500 mm)	●	●	●	●	●
E01	Lead wire (1000 mm)	●	●	●	●	●
E02	Lead wire (2000 mm)	●	●	●	●	●
E03	Lead wire (3000 mm)	●	●	●	●	●
E2	Lead wire (300 mm) w/ surge suppressor and indicator light	●	●	●	●	●
E20	Lead wire (500 mm) w/ surge suppressor and indicator light	●	●	●	●	●
E21	Lead wire (1000 mm) w/ surge suppressor and indicator light	●	●	●	●	●
E22	Lead wire (2000 mm) w/ surge suppressor and indicator light	●	●	●	●	●
E23	Lead wire (3000 mm) w/ surge suppressor and indicator light	●	●	●	●	●
E0N	w/o lead wire (w/o socket)	●	●	●	●	●
E2N	w/o lead wire (w/o socket) w/ surge suppressor and indicator light	●	●	●	●	●
E3	w/o lead wire (socket and terminal attached) w/ surge suppressor and indicator light	●	●	●	●	●
E1	w/o lead wire (socket and terminal attached)	●	●	●	●	●
EJ-connector (socket with cover, upward/lateral common)						
E01J	Lead wire (1000 mm)	●	●	●	●	●
E02J	Lead wire (2000 mm)	●	●	●	●	●
E03J	Lead wire (3000 mm)	●	●	●	●	●
E21J	Lead wire (1000 mm) w/ surge suppressor/indicator light	●	●	●	●	●
E22J	Lead wire (2000 mm) w/ surge suppressor/indicator light	●	●	●	●	●
E23J	Lead wire (3000 mm) w/ surge suppressor/indicator light	●	●	●	●	●
Ⓔ Option						
Blank	None	●	●	●	●	●
H	w/ check valve Note 2	●	●	●	●	●
K	External pilot			●	●	●
A	Ozone and coolant proof	●	●	●	●	●
F	P/A/B port filter integrated	●	●	●	●	●
Ⓕ Voltage						
1	100 VAC (rectified bridge integrated)	●	●	●	●	●
3	24 VDC	●	●	●	●	●
4	12 VDC	●	●	●	●	●

is not available.

⚠ Note on model no. selection

Note 1: The grommet lead specifications are available only for 12/24 VDC.
Note 2: The check valve specifications are not available for the 3-position all ports closed or P/A/B connection. Refer to page 382 for details on the check valve.
Note 3: Combination with the external pilot (K) is not available. The dimensions are the same dimensions as each 2-position double solenoid.

MEMO

Internal structure drawing and parts list

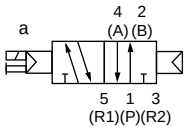
3GB1660

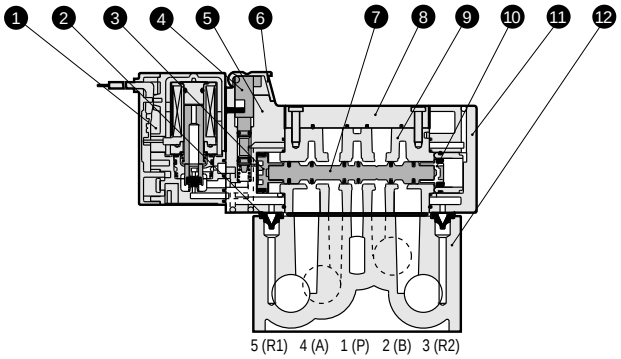
● Two 3 port valve integrated type
Grommet lead wire (blank)

Refer to page 136 for details.

4GB110

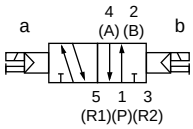
● 2-position single solenoid
Grommet lead wire (blank)

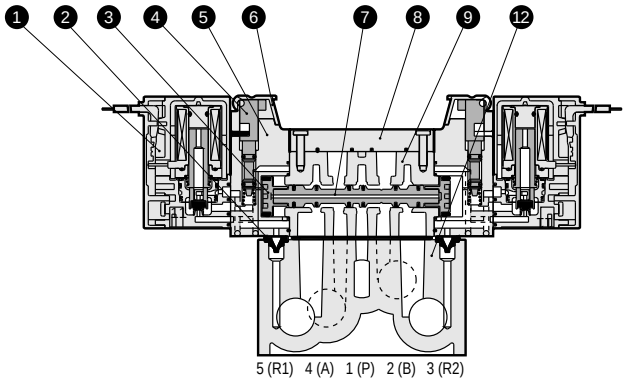




4GB120

● 2-position double solenoid
Grommet lead wire (blank)

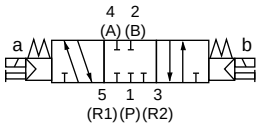




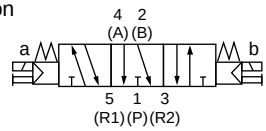
4GB1$^{3}_{4}_{5}$0

● 3-position
Grommet lead wire (blank)

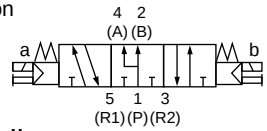
All ports closed

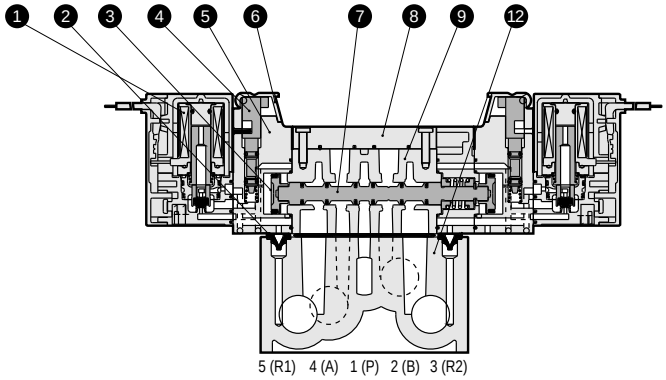


A/B/R connection



P/A/B connection





Main parts list

No.	Parts name	Material
1	Coil assembly	-
2	Pilot exhaust check valve	Nitrile rubber
3	Piston D assembly	-
4	Manual override	Resin
5	Piston room	Resin
6	Protective cover of manual override	Resin
7	Spool assembly	-
8	Plate	Resin
9	Body	Aluminum alloy die-casting
10	Piston S assembly	-
11	Cap	Resin
12	Sub-plate	Aluminum alloy die-casting

Repair parts list

No.	Parts name	Material
1	Coil assembly	4G-[electric connection]-*-COIL-[voltage] Blank: Standard A: Ozone proof Blank: Grommet lead wire

Internal structure drawing and parts list

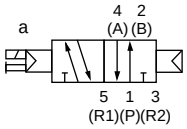
3GB2660

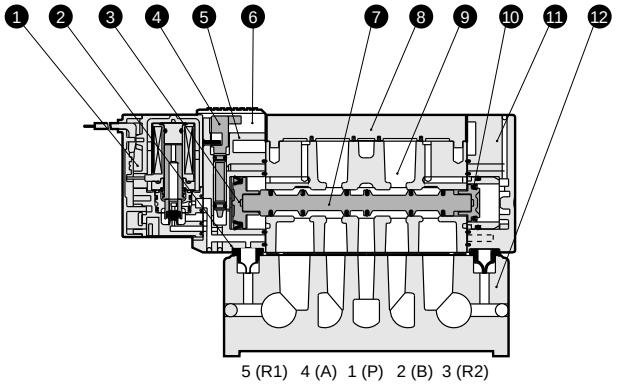
● Two 3 port valve integrated type
Grommet lead wire (blank)

Refer to page 136 for details.

4GB210/4GB310

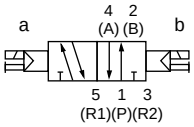
● 2-position single solenoid
Grommet lead wire (blank)

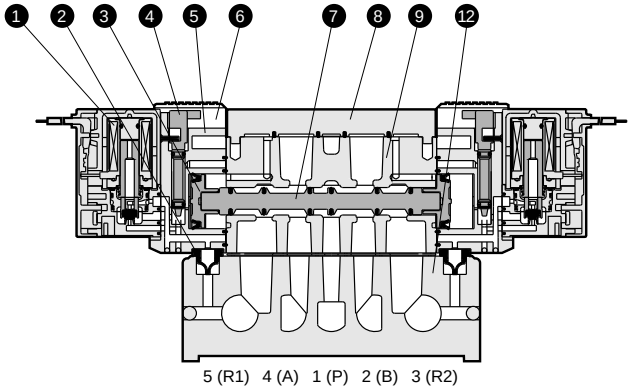




4GB220/4GB320

● 2-position double solenoid
Grommet lead wire (blank)

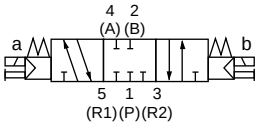




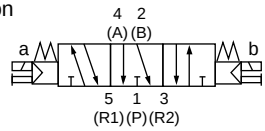
4GB2$^{3}_{4}_{5}$0/4GB3$^{3}_{4}_{5}$0

● 3-position
Grommet lead wire (blank)

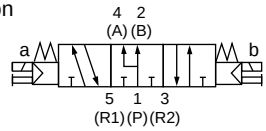
All ports closed

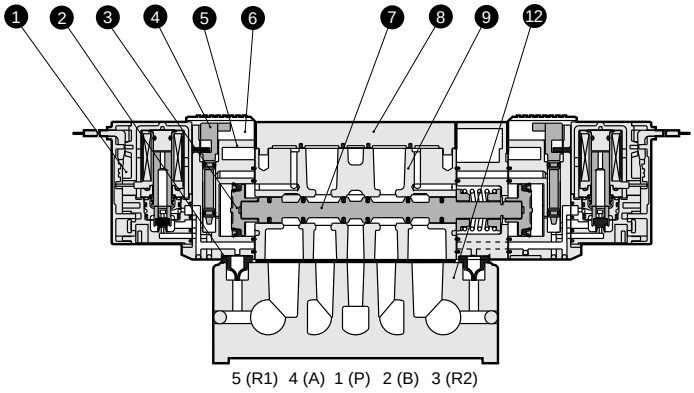


A/B/R connection



P/A/B connection





Main parts list

No.	Parts name	Material
1	Coil assembly	-
2	Pilot exhaust check valve	Nitrile rubber
3	Piston D assembly	-
4	Manual override	Resin
5	Piston room	Resin
6	Protective cover of manual override	Resin
7	Spool assembly	-
8	Plate	Resin
9	Body	Aluminum alloy die-casting
10	Piston S assembly	-
11	Cap	Resin
12	Sub-plate	Aluminum alloy die-casting

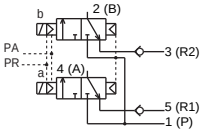
Repair parts list

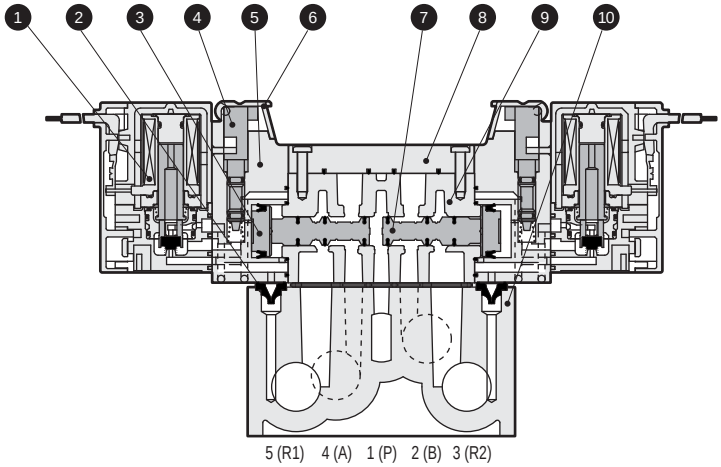
No.	Parts name	Material
1	Coil assembly	4G- electric connection -*-COIL- voltage Blank: Standard A: Ozone proof Blank: Grommet lead wire

Internal structure drawing and parts list

3GB1660

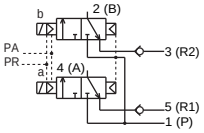
● Two 3 port valve integrated type
Grommet lead wire (blank)

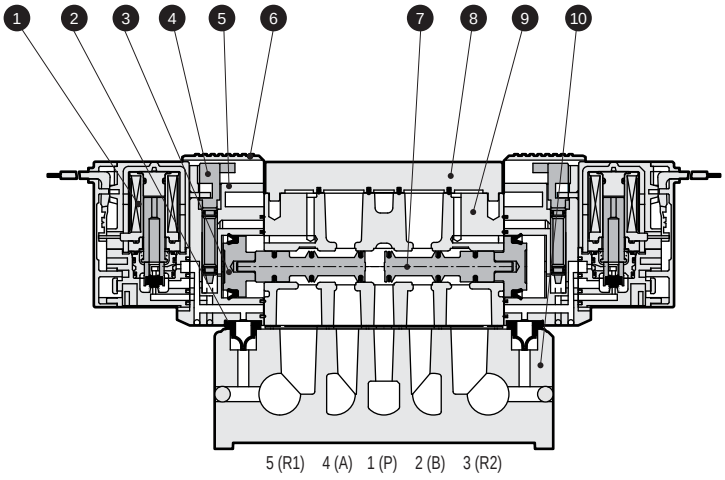




3GB2660

● Two 3 port valve integrated type
Grommet lead wire (blank)





Main parts list

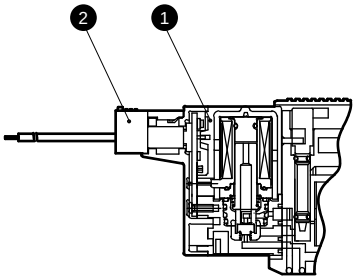
No.	Parts name	Material
1	Coil assembly	-
2	Pilot exhaust check valve	Nitrile rubber
3	Piston assembly	-
4	Manual override	Resin
5	Piston room	Resin
6	Protective cover of manual override	Resin
7	Spool assembly	-
8	Plate	Resin
9	Body	Aluminum alloy die-casting
10	Sub-plate	Aluminum alloy die-casting

Repair parts list

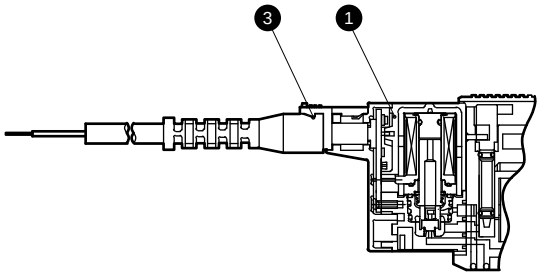
No.	Parts name	Material
1	Coil assembly	4G-[electric connection]-*-COIL-[voltage] Blank: Standard A: Ozone proof Blank: Grommet lead wire

Electric connection internal structure and parts list

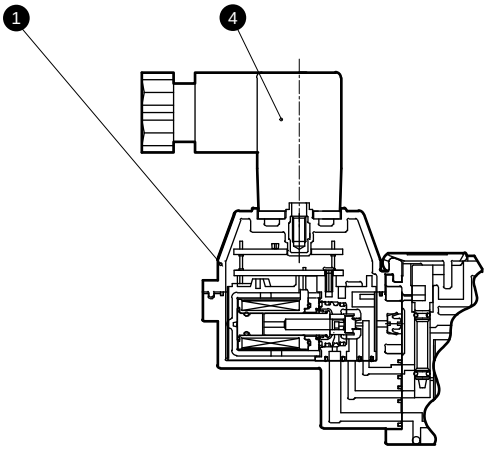
● E-connector type (E**)



● EJ-connector type (E**J)



● DIN terminal box type (B)



Main parts list

No.	Parts name	Material
1	Coil assembly	
2	E-connector socket assembly	-
3	Socket assembly with cover	-
4	DIN terminal box assembly	-

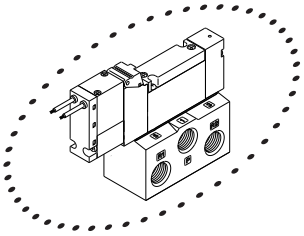
Repair parts list

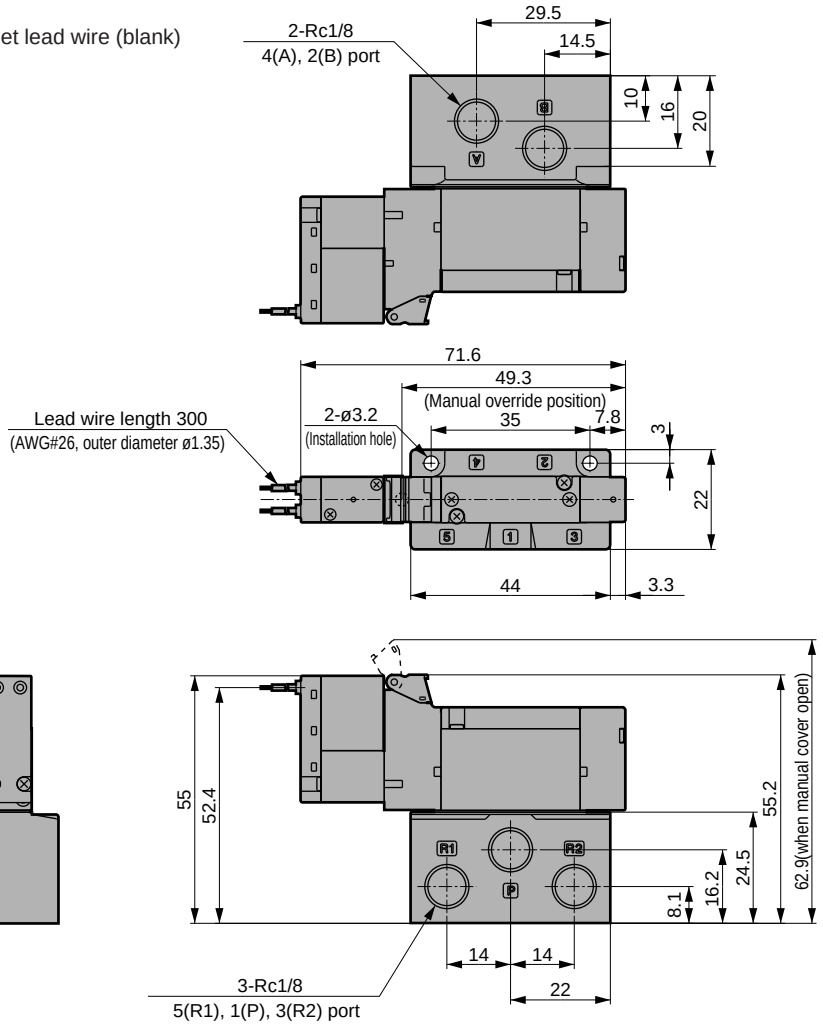
No.	Parts name	Material
1	Coil assembly	4G-[electric connection]-*-COIL-[voltage] Blank: Standard A: Ozone proof E*: E-connector type E*J: Socket with cover type B: DIN terminal box type B includes the DIN terminal box
2	E-connector socket assembly	4G-SOCKET-ASSY-E**-[voltage]
3	Socket assembly with cover	4G-SOCKET-ASSY-E**J
4	DIN terminal box assembly	4G-TERMINAL-BOX-[voltage]

Dimensions CAD

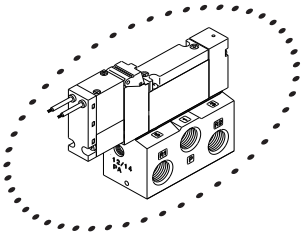
4GB110

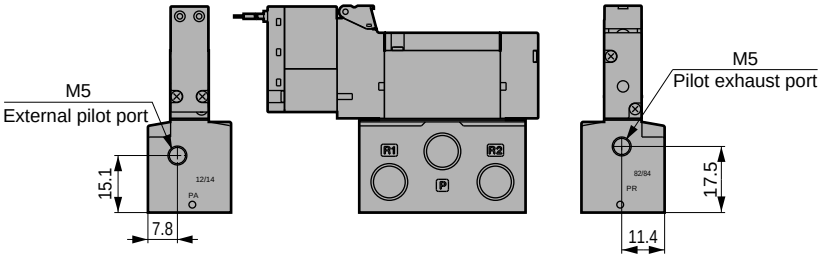
● 2-position single solenoid grommet lead wire (blank)





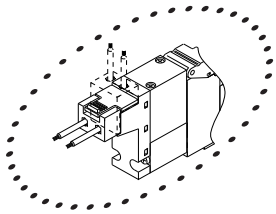
● External pilot operated type (K)

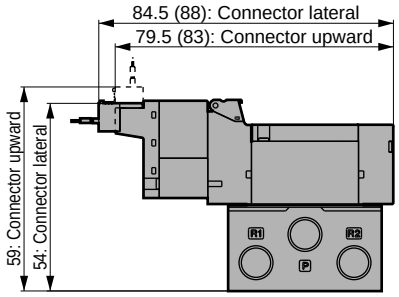




Dimensions

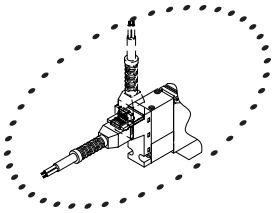
● E-connector type (E)

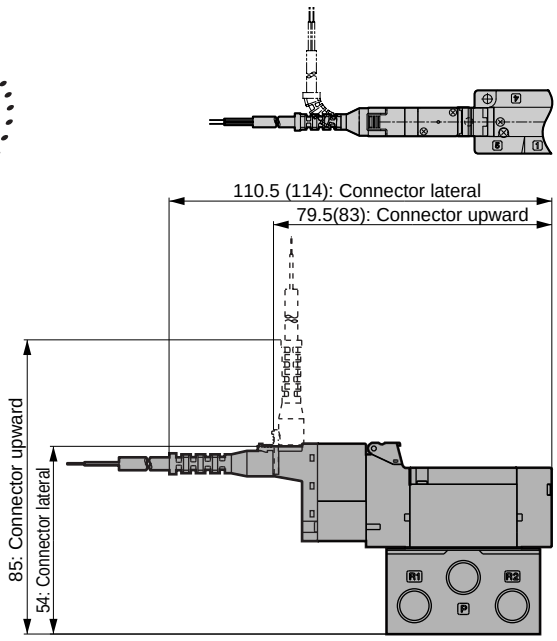




Note: Values in ( ) are for 100 VAC

● EJ-connector type (E**J)





Note: Values in ( ) are for 100 VAC

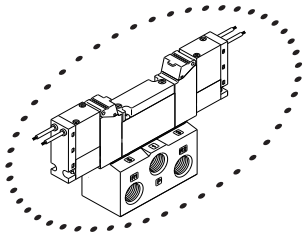
Dimensions CAD

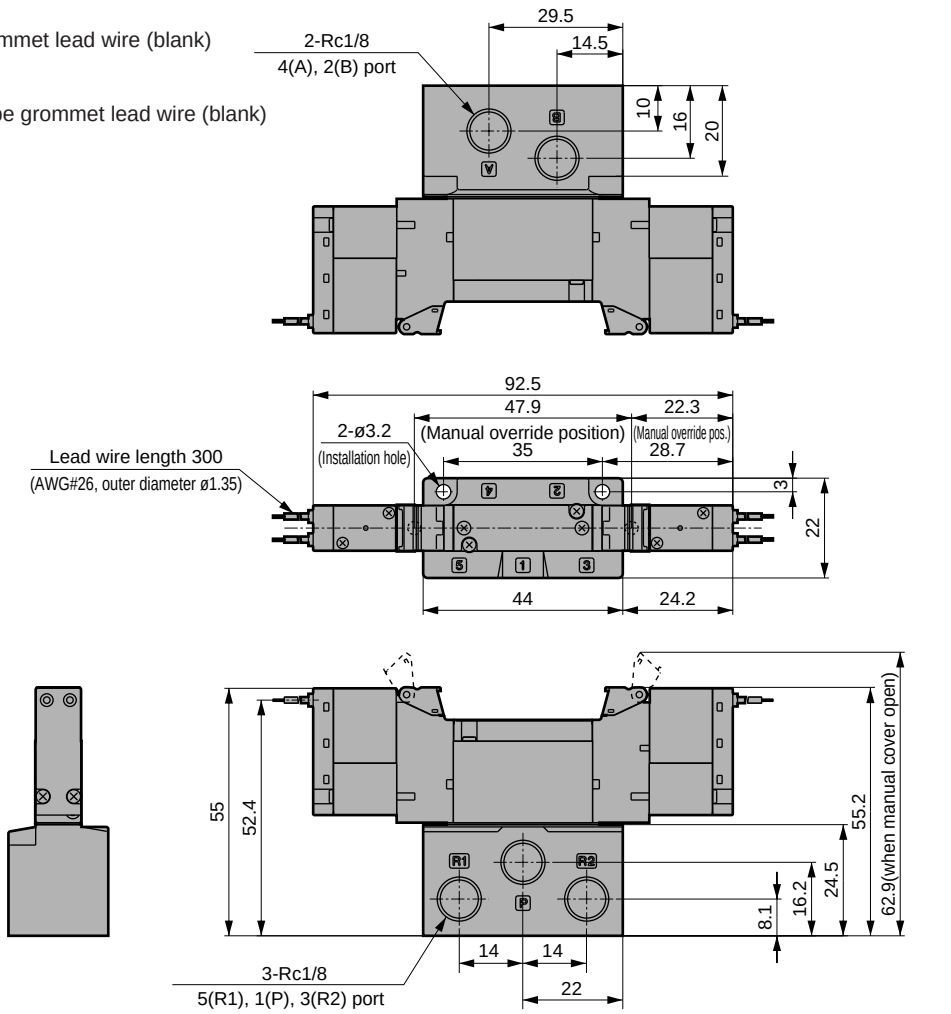
4GB120

● 2-position double solenoid grommet lead wire (blank)

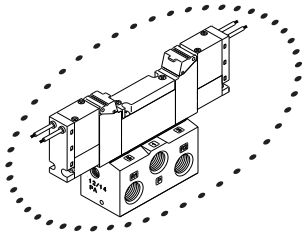
3GB1660

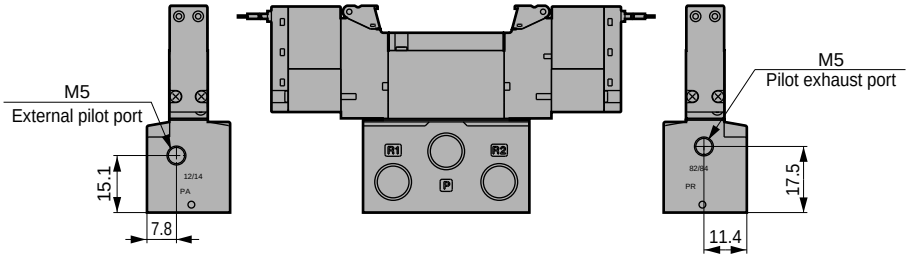
● Two 3 port valve integrated type grommet lead wire (blank)





● External pilot operated type (K)

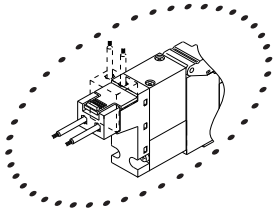


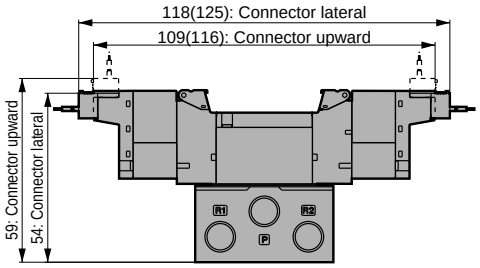


Note: Combination with the two 3 port valves integrated type and external pilot type is not available.

Dimensions

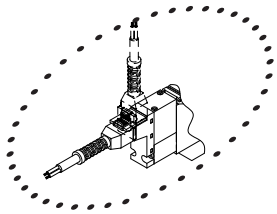
● E-connector type (E)

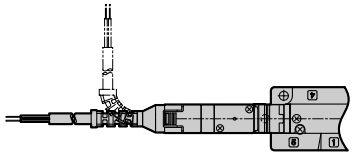


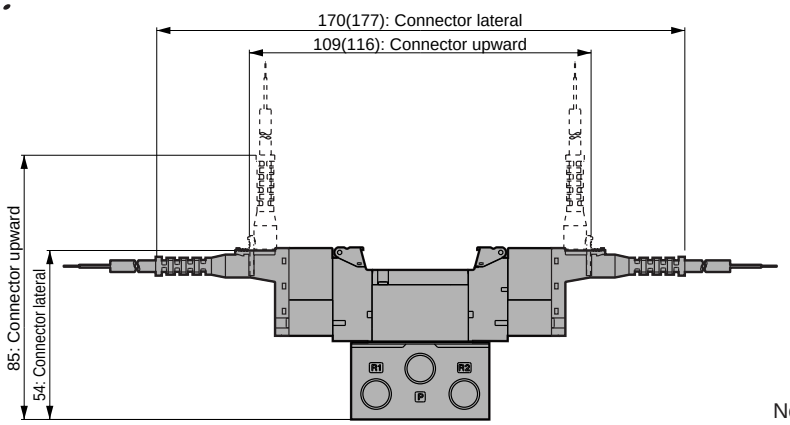


Note: Values in ( ) are for 100 VAC

● EJ-connector type (E**J)





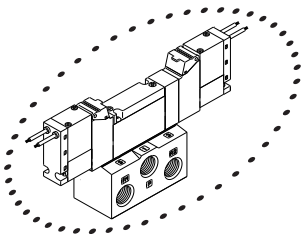


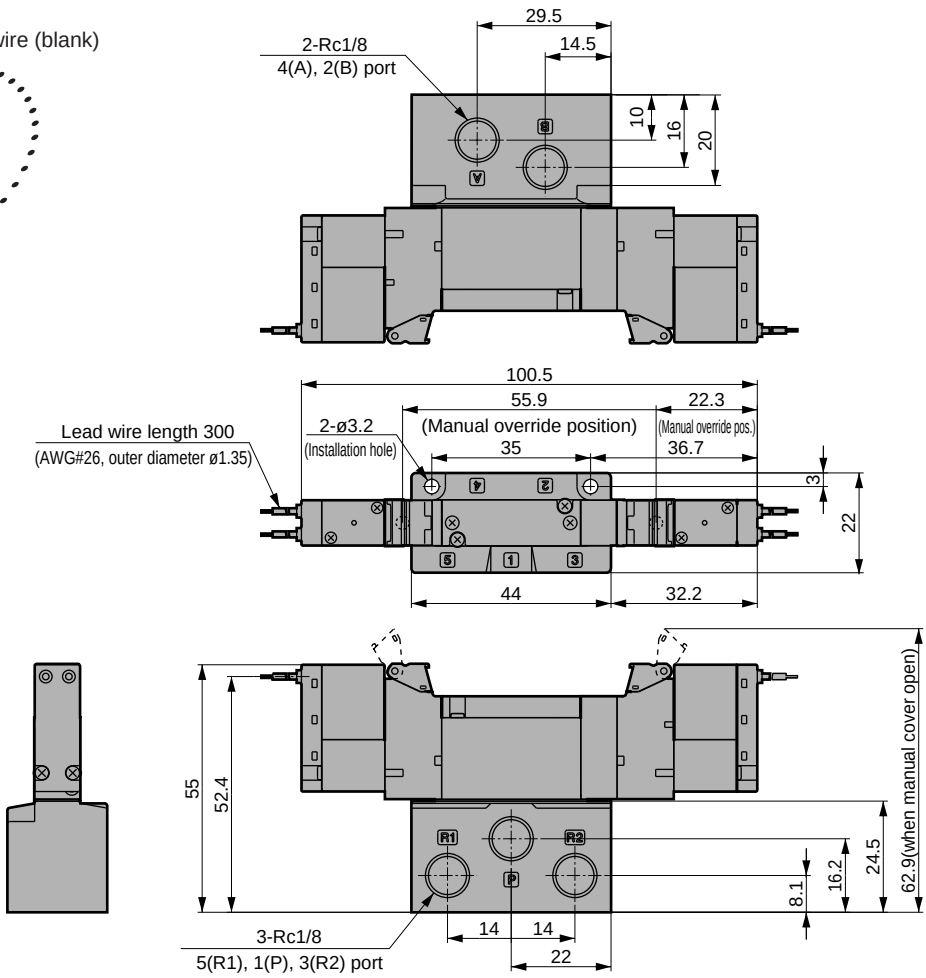
Note: Values in ( ) are for 100 VAC

Dimensions CAD

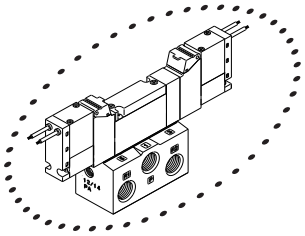
4GB1$^{3}_{4}_{5}$0

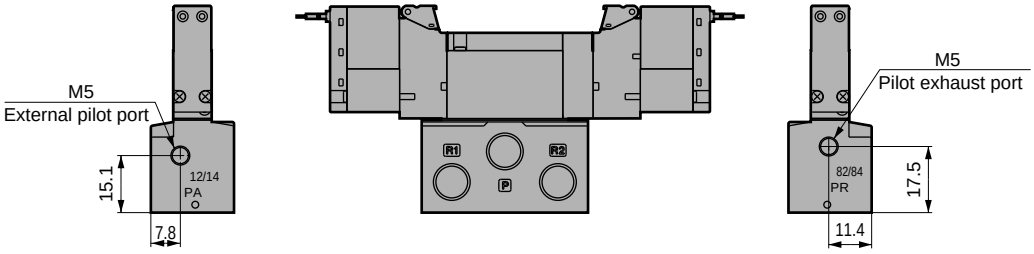
● 3-position grommet lead wire (blank)





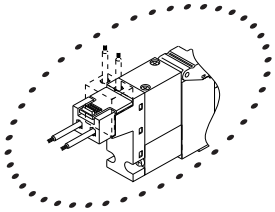
● External pilot operated type (K)

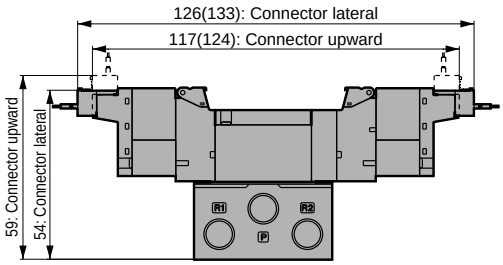




Dimensions

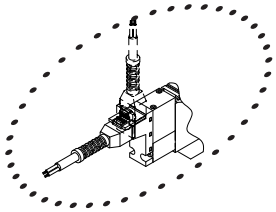
● E-connector type (E)

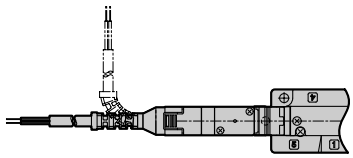


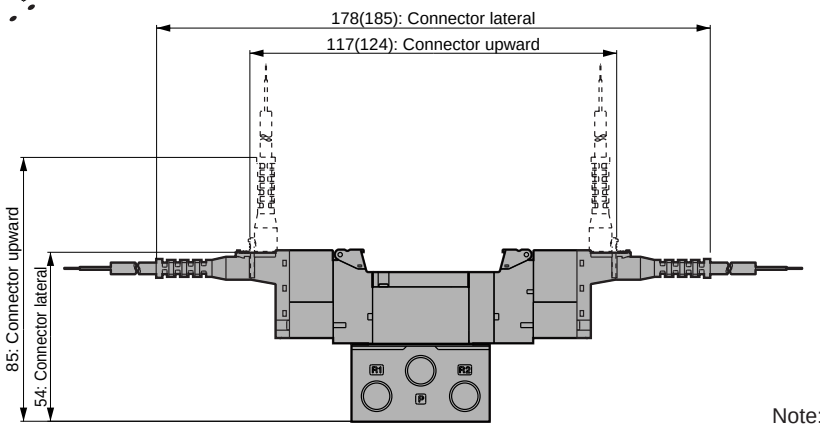


Note: Values in ( ) are for 100 VAC

● EJ-connector type (E**J)





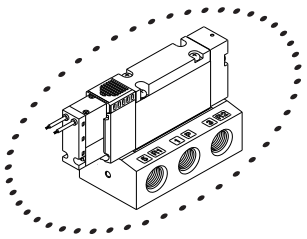


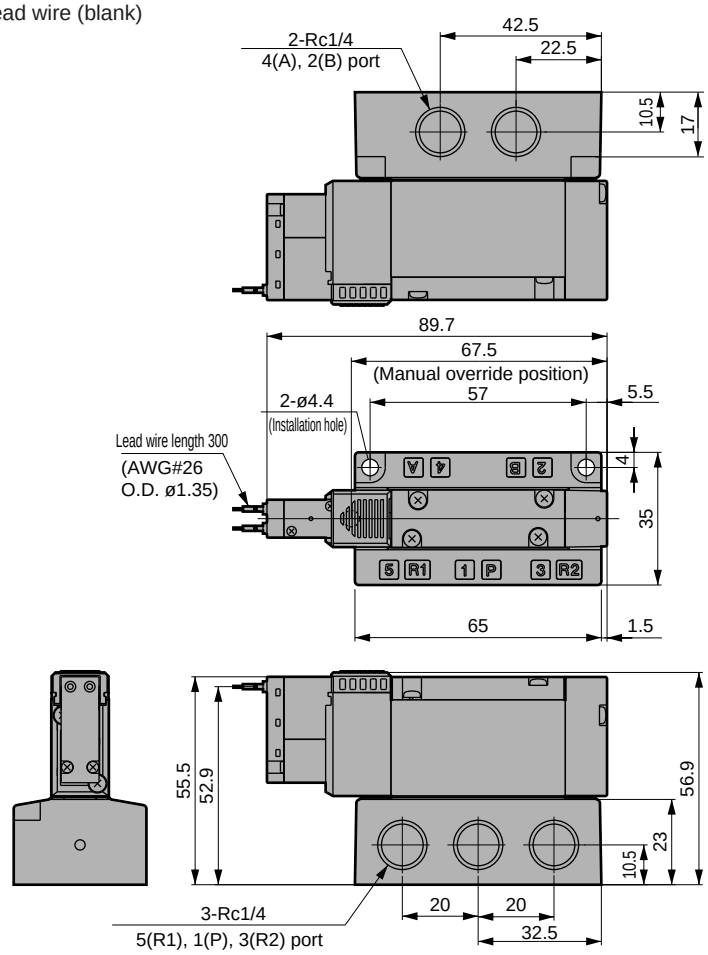
Note: Values in ( ) are for 100 VAC

Dimensions CAD

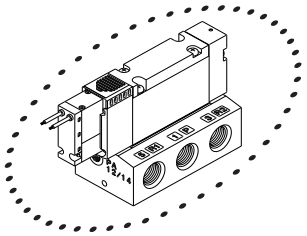
4GB210

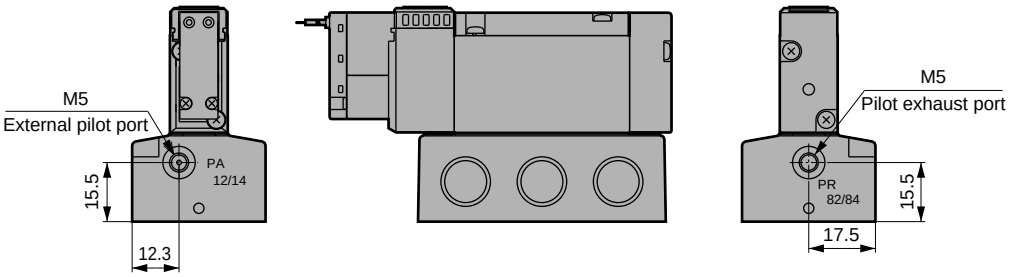
● 2-position single solenoid grommet lead wire (blank)





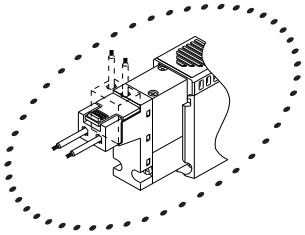
● External pilot operated type (K)

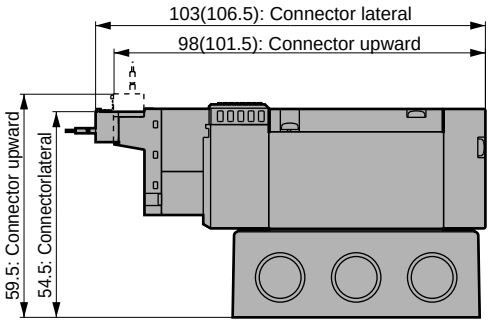




Dimensions

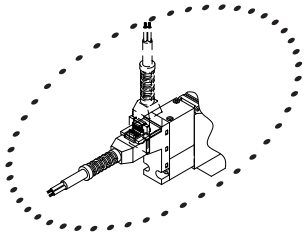
● E-connector type (E)

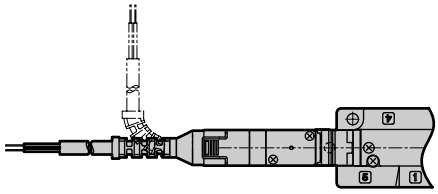




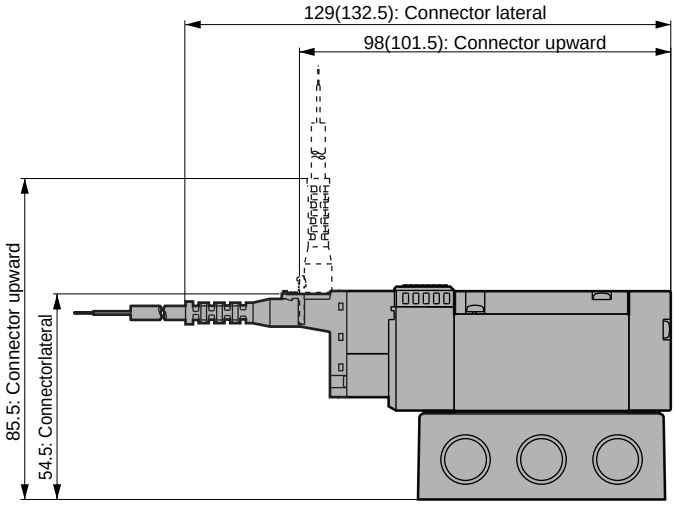
Note: Values in ( ) are for 100 VAC

● EJ-connector type (E**J)

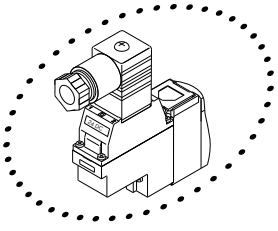


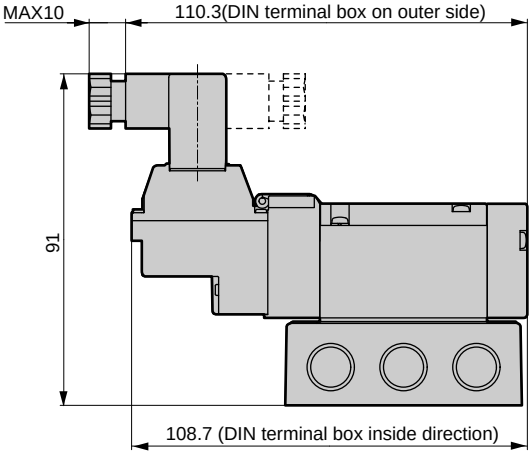


Note: Values in ( ) are for 100 VAC



● DIN terminal box type (B)





Note: The DIN terminal box assembly is shipped facing inward.

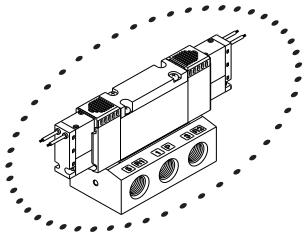
Dimensions CAD

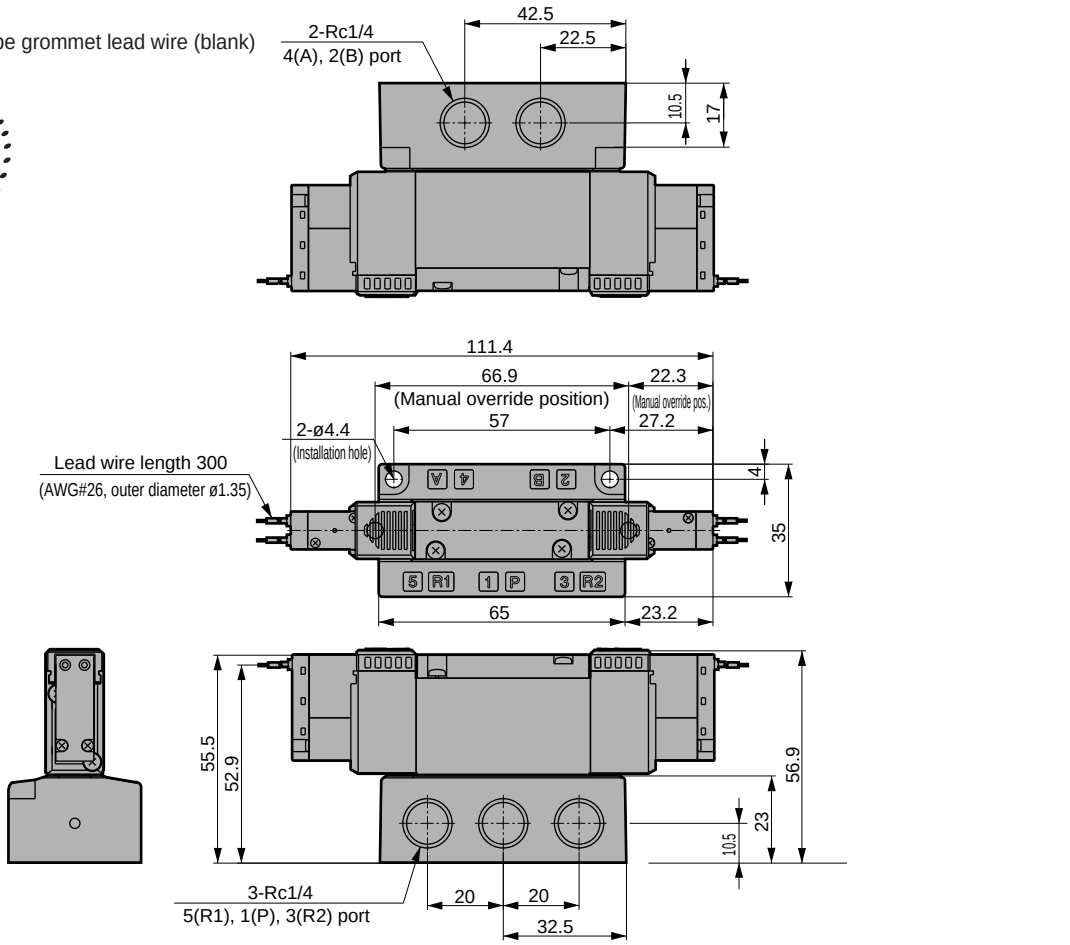
4GB220

● 2-position double solenoid grommet lead wire (blank)

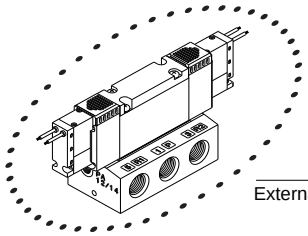
3GB2660

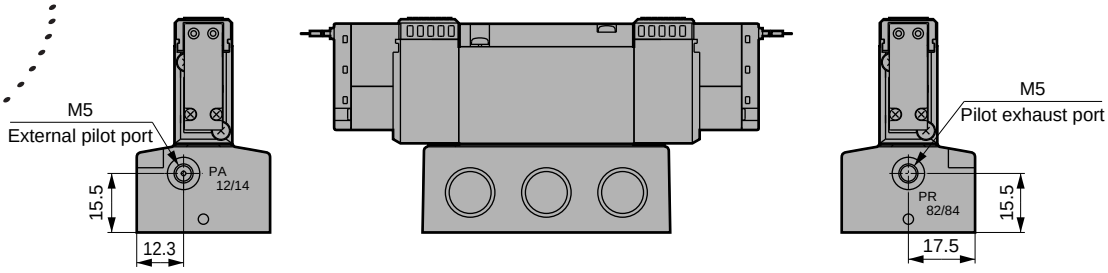
● Two 3 port valve integrated type grommet lead wire (blank)





● External pilot operated type (K)

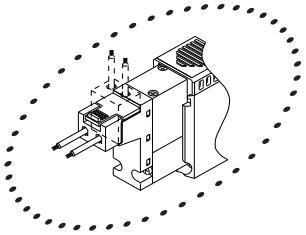


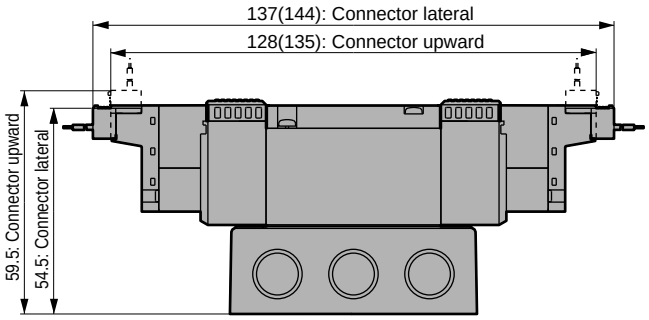


Note: Combination with the two 3 port valves integrated type and external pilot type is not available.

Dimensions

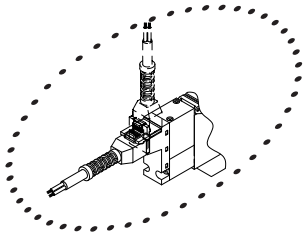
● E-connector type (E)

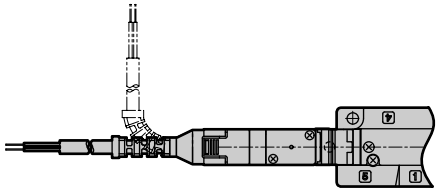




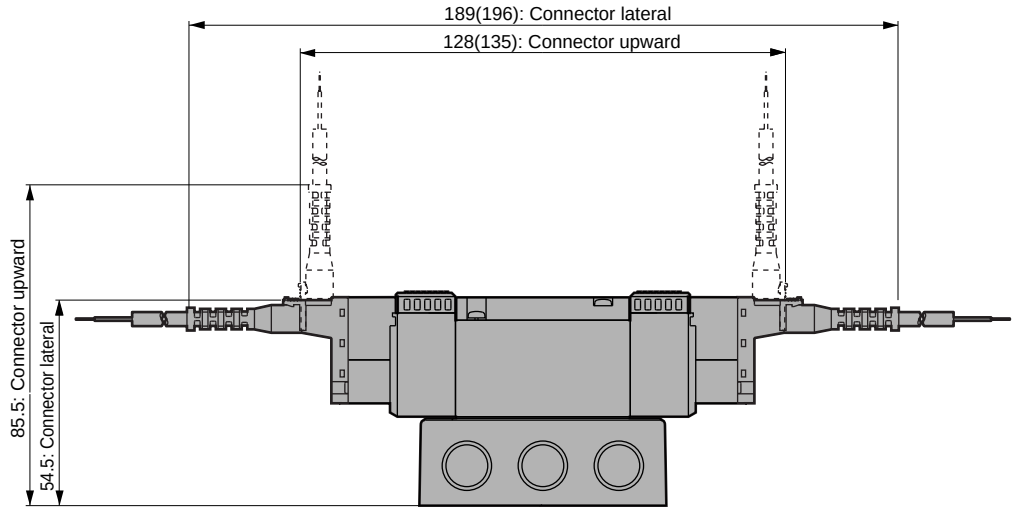
Note: Values in ( ) are for 100 VAC

● EJ-connector type (E**J)

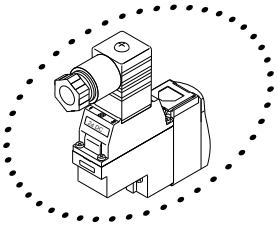


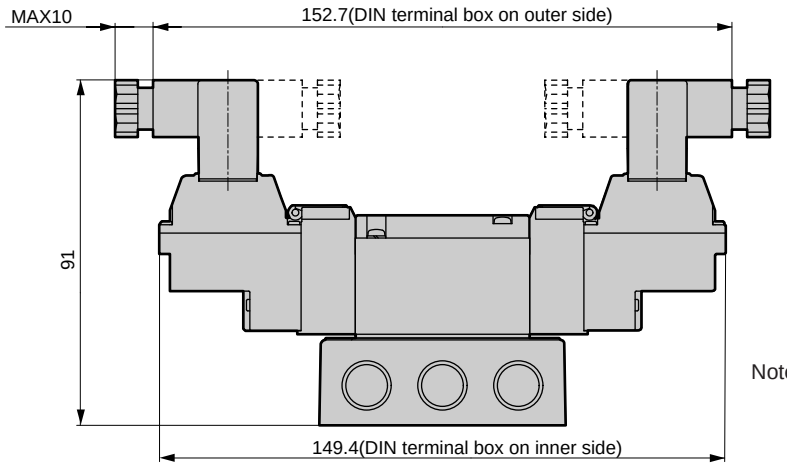


Note: Values in ( ) are for 100 VAC



● DIN terminal box type (B)



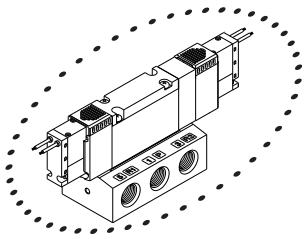


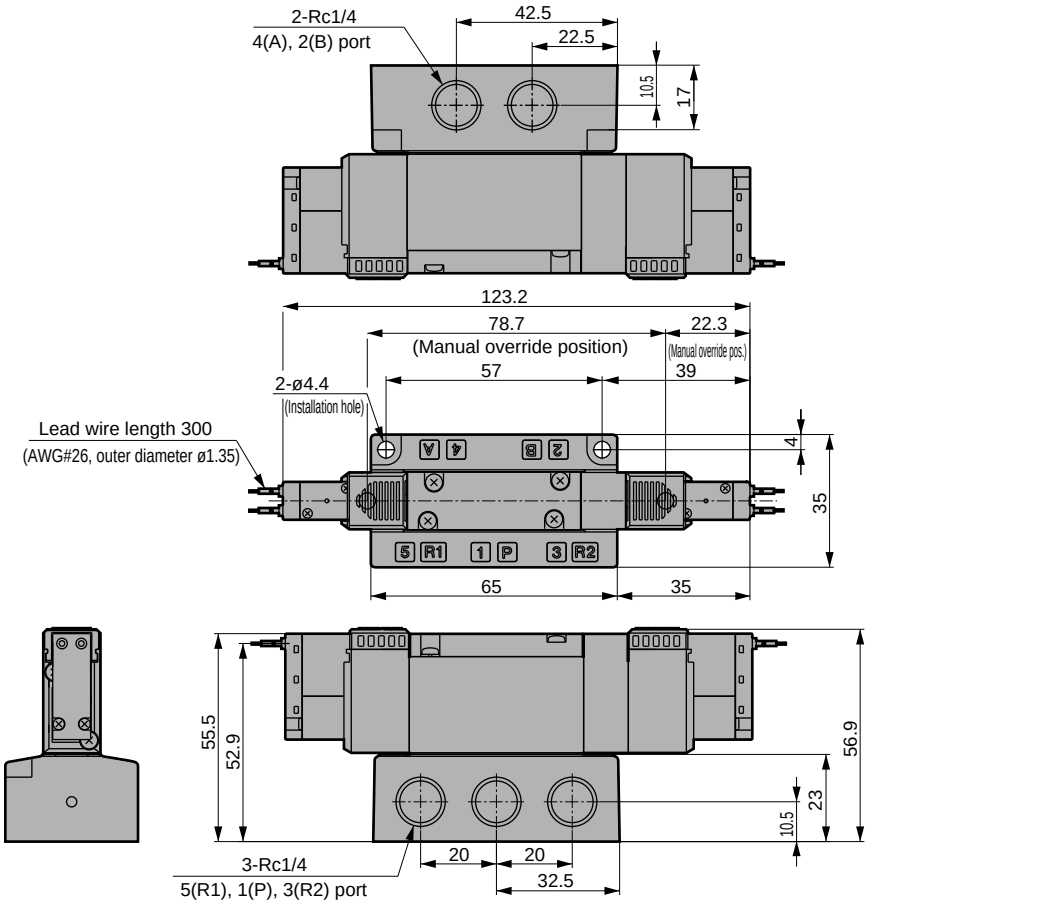
Note: The DIN terminal box assembly is shipped facing inward.

Dimensions CAD

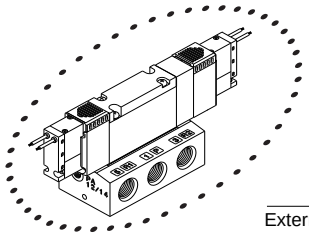
4GB2$^{3}_{4}_{5}$0

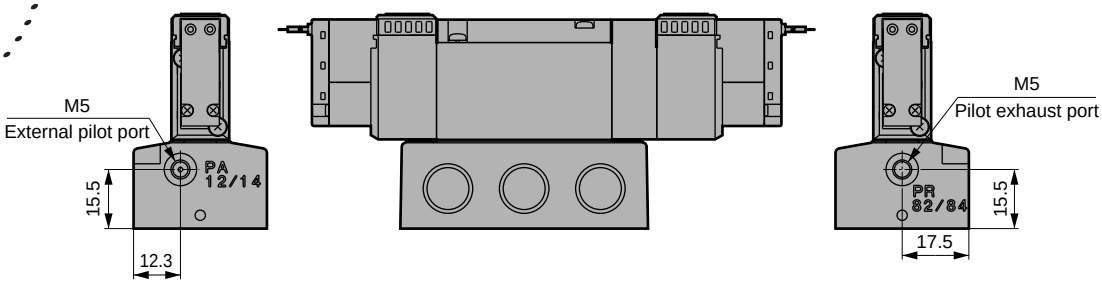
● 3-position grommet lead wire (blank)





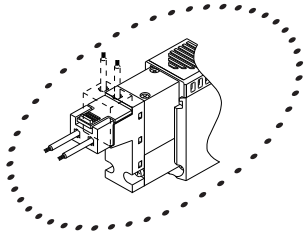
● External pilot operated type (K)

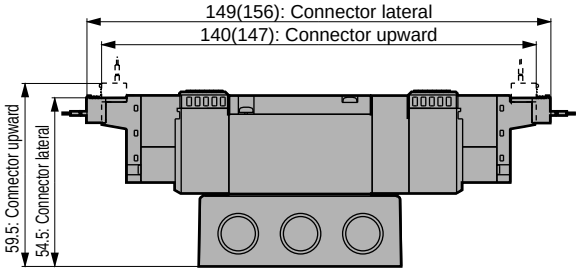




Dimensions

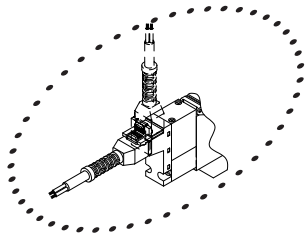
● E-connector type (E)

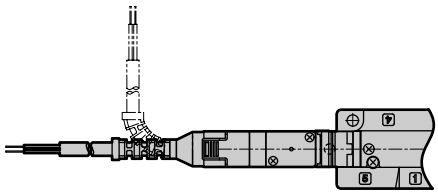




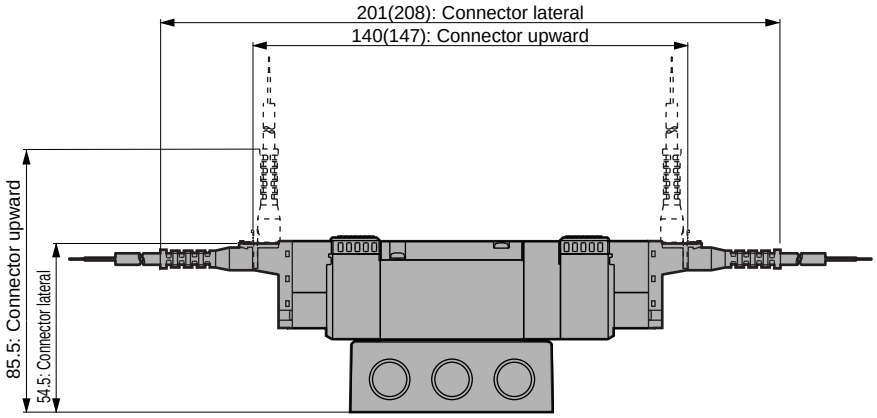
Note: Values in ( ) are for 100 VAC

● EJ-connector type (E**J)

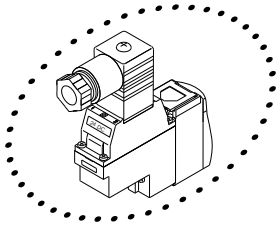


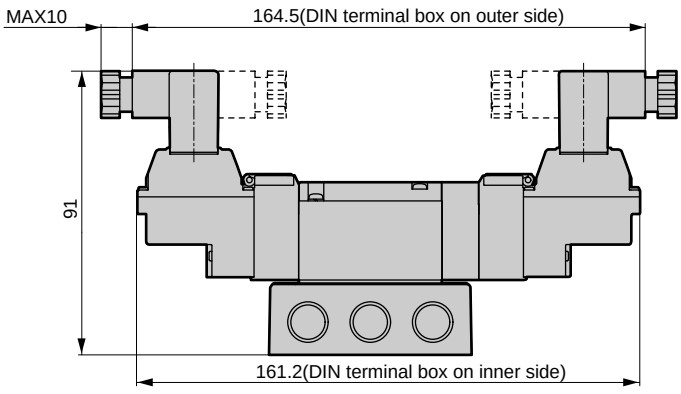


Note: Values in ( ) are for 100 VAC



● DIN terminal box type (B)



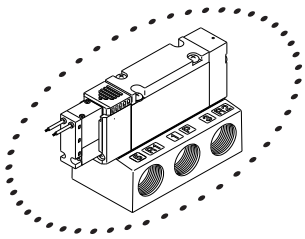


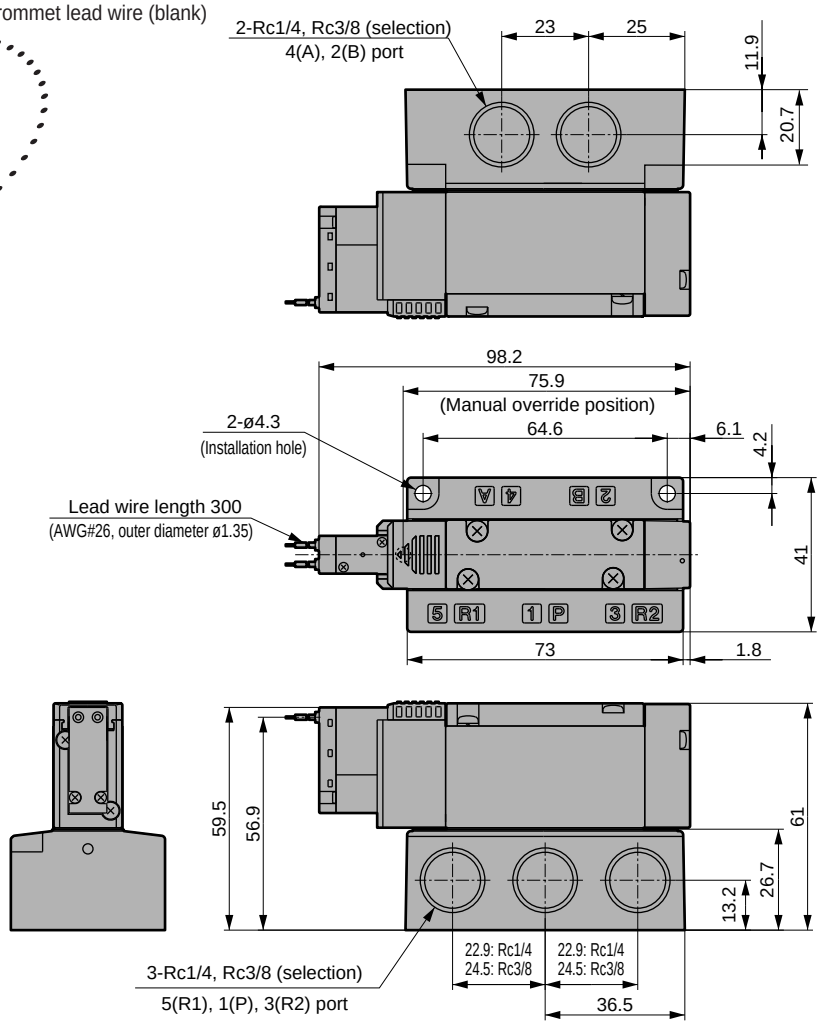
Note: The DIN terminal box assembly is shipped facing inward.

Dimensions CAD

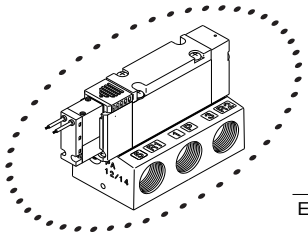
4GB310

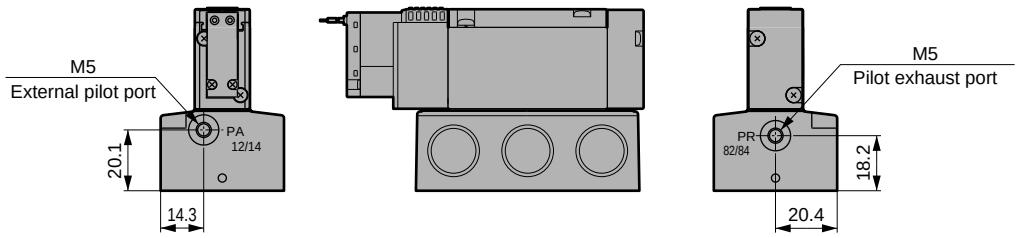
● 2-position single solenoid grommet lead wire (blank)





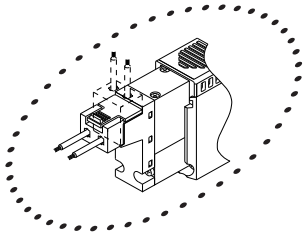
● External pilot operated type (K)

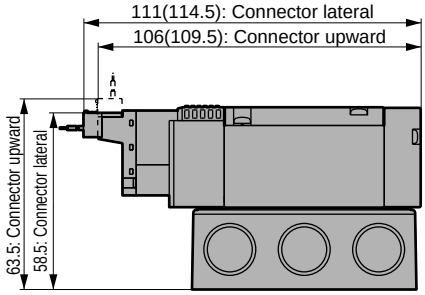




Dimensions

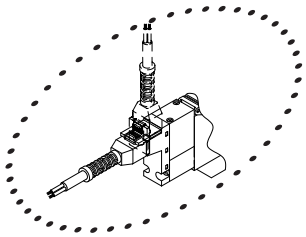
● E-connector type (E)

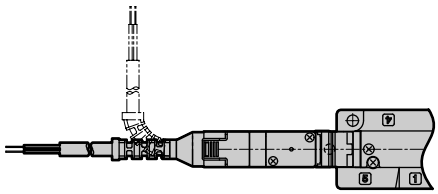




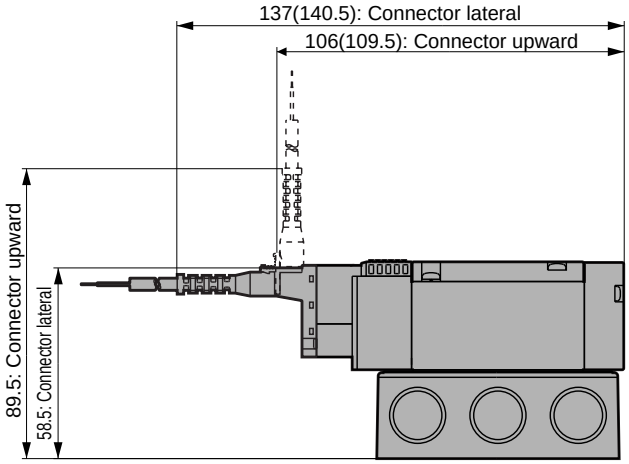
Note: Values in ( ) are for 100 VAC

● EJ-connector type (E**J)

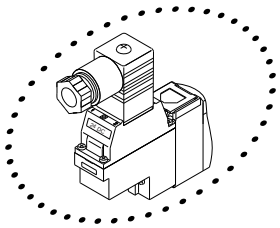


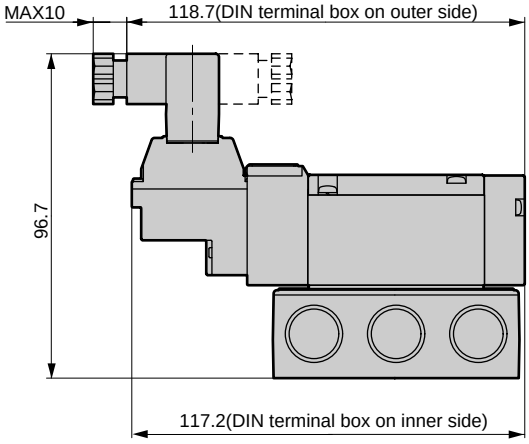


Note: Values in ( ) are for 100 VAC



● DIN terminal box type (B)



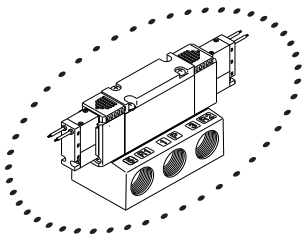


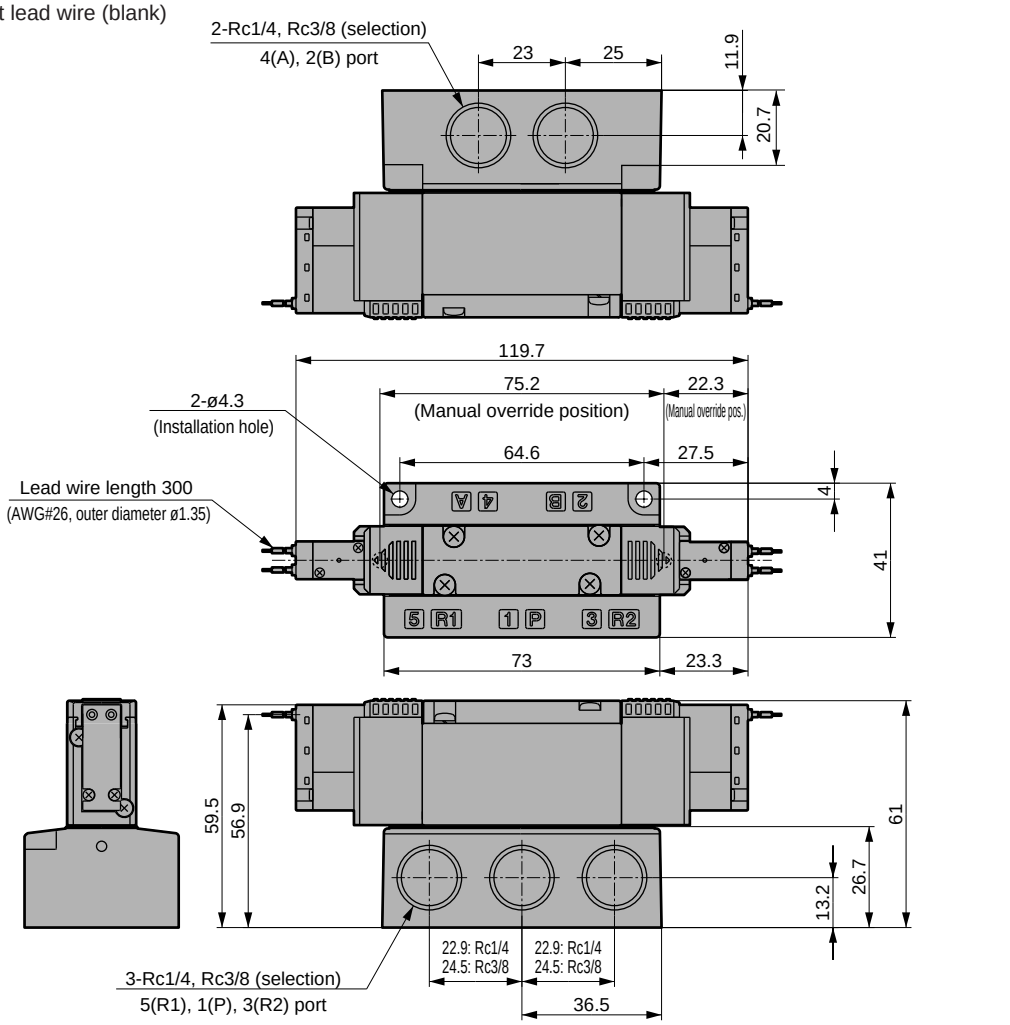
Note: The DIN terminal box assembly is shipped facing inward.

Dimensions CAD

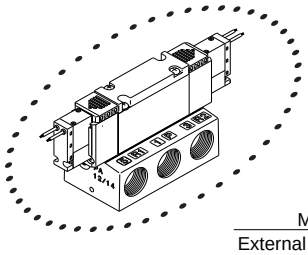
4GB320

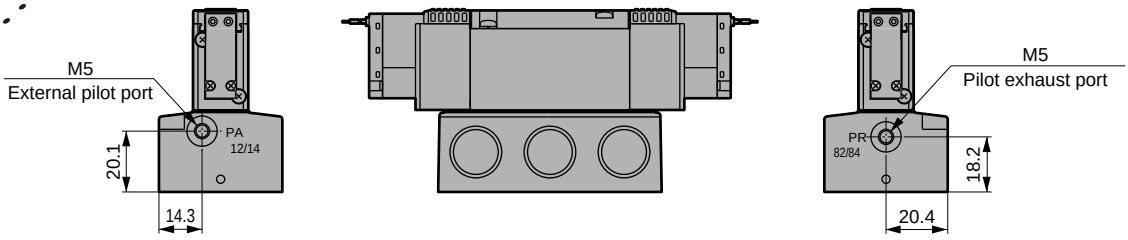
● 2-position double solenoid grommet lead wire (blank)





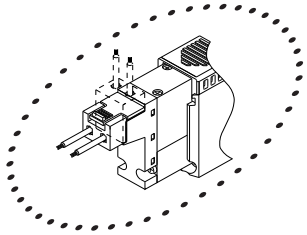
● External pilot operated type (K)

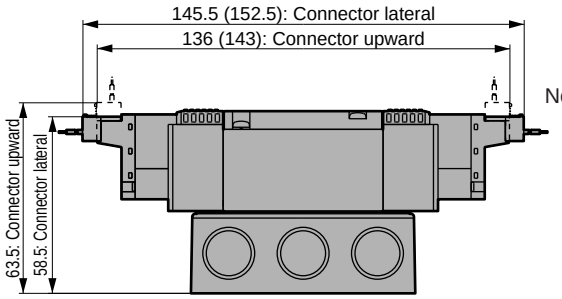




Dimensions

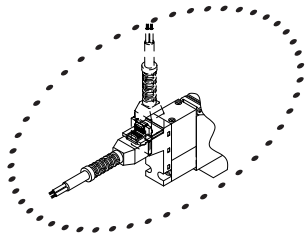
● E-connector type (E)

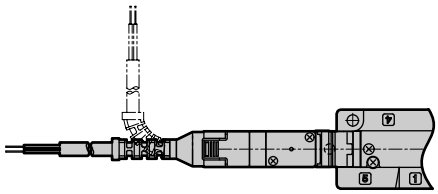




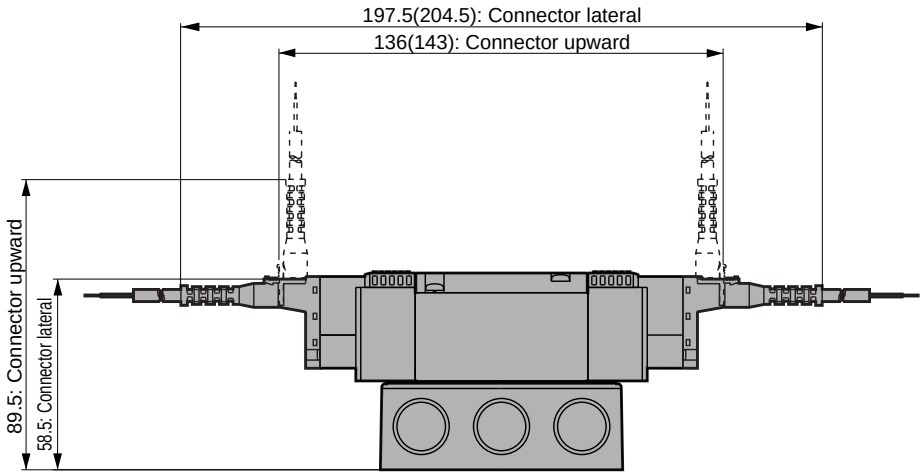
Note: Values in ( ) are for 100 VAC

● EJ-connector type (E**J)

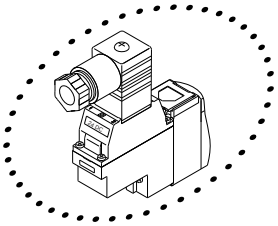


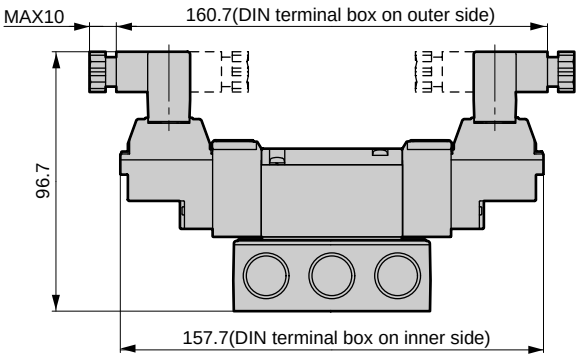


Note: Values in ( ) are for 100 VAC



● DIN terminal box type (B)



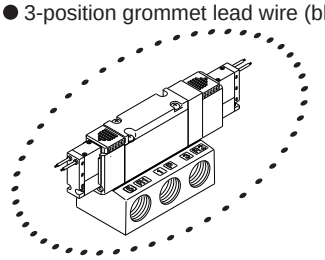


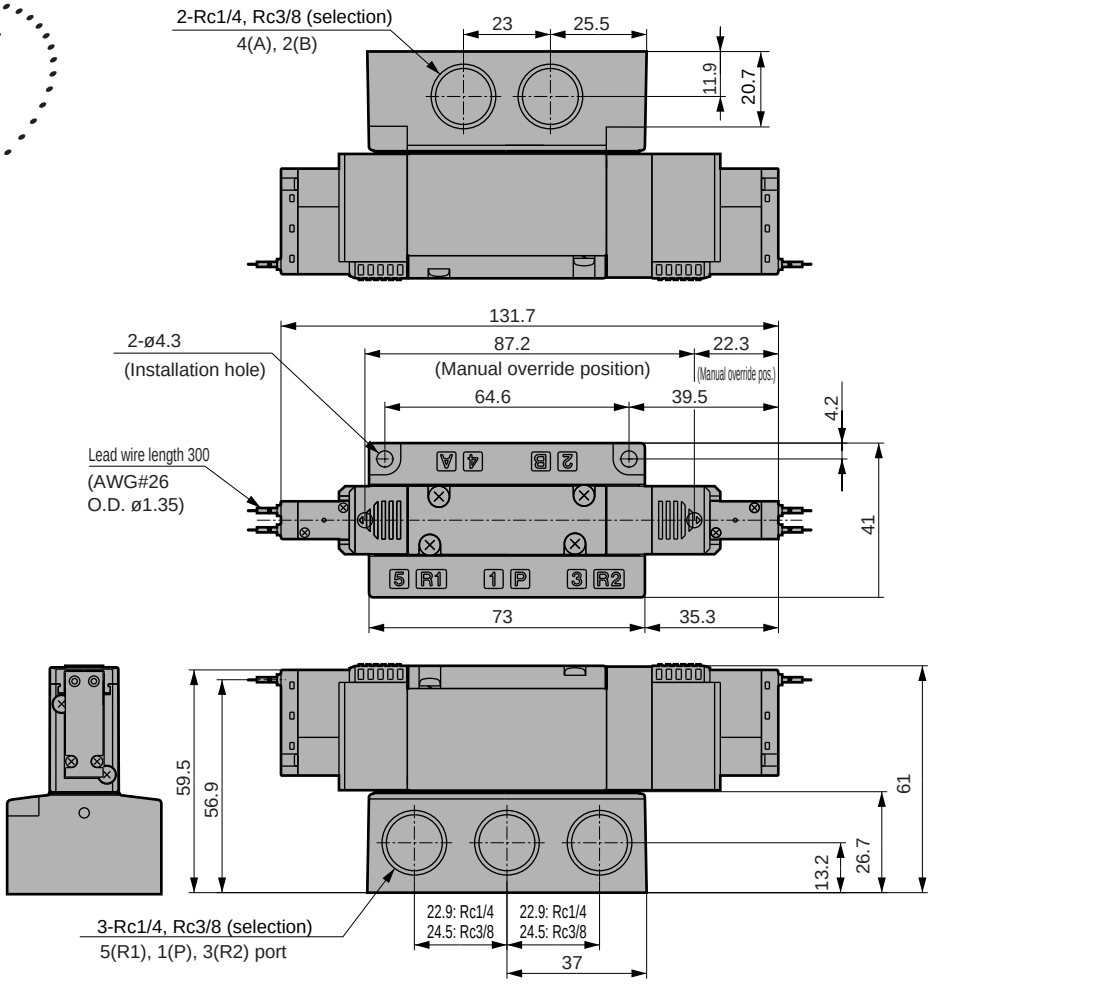
Note: The DIN terminal box assembly is shipped facing inward.

Dimensions CAD

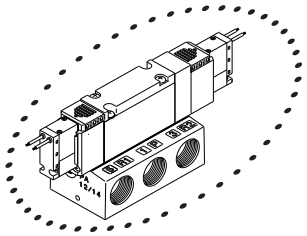
4GB3$^{3}_{4}_{5}$0

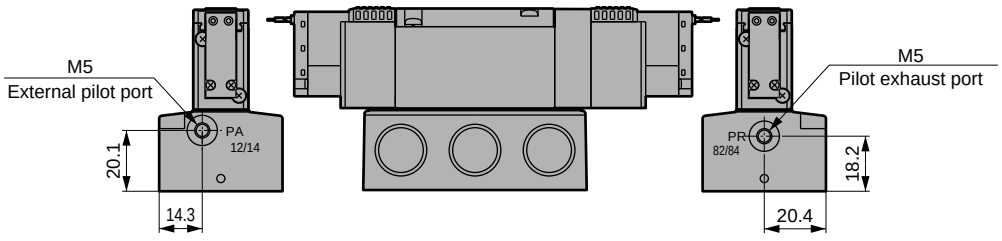
● 3-position grommet lead wire (blank)





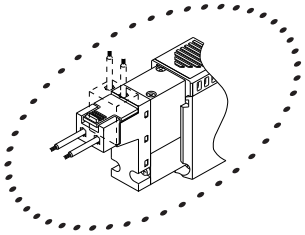
● External pilot operated type (K)

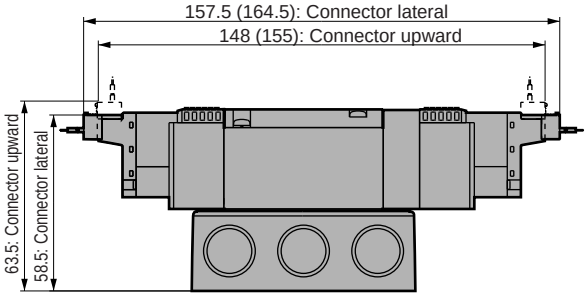




Dimensions

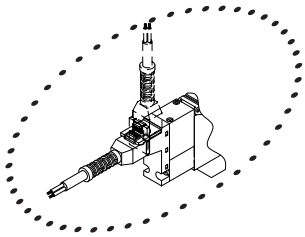
● E-connector type (E)

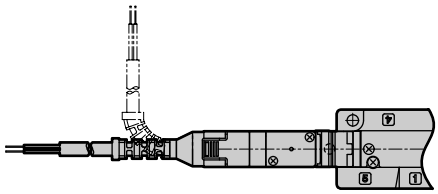




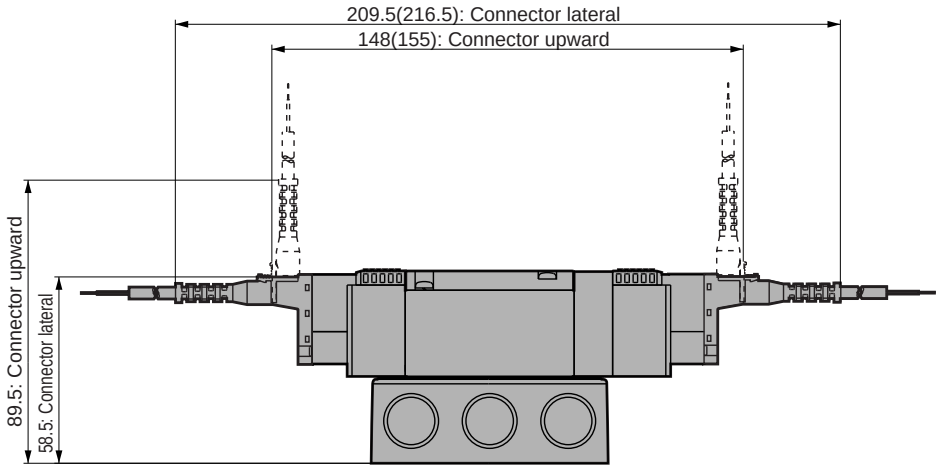
Note: Values in ( ) are for 100 VAC

● EJ-connector type (E**J)

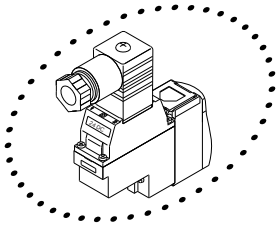


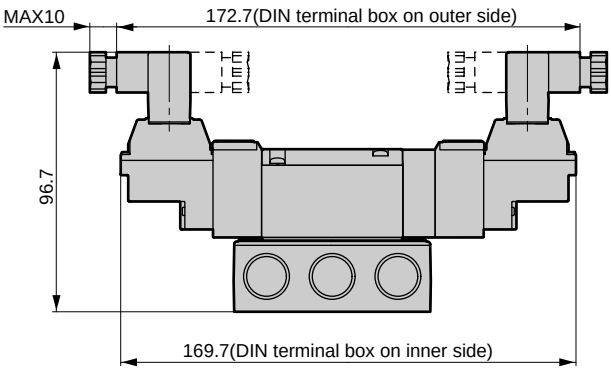


Note: Values in ( ) are for 100 VAC

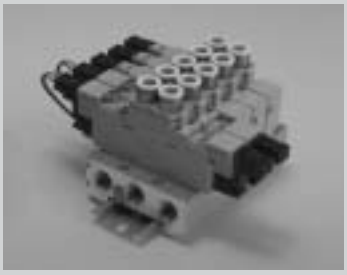


● DIN terminal box type (B)





Note: The DIN terminal box assembly is shipped facing inward.

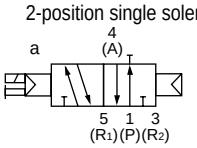


Individual wiring manifold
Body porting
Direct mount type / DIN rail mount type
M3GA1/2/3-(D), M4GA1/2/3-(D) Series

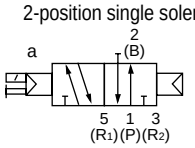
● Applicable cylinder bore size: ø20 to ø100 CE Refer to Intro 17 for details. RoHS CAD

JIS symbol

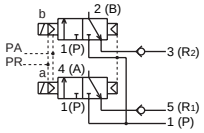
● 3 port valve
2-position single solenoid N.C. type



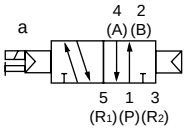
2-position single solenoid N.O. type



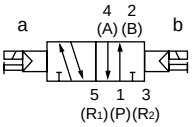
● Two 3 port valve integrated type
(A side valve: N.C. type, B side valve: N.C. type)



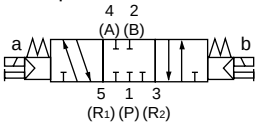
● 5 port valve
2-position single solenoid



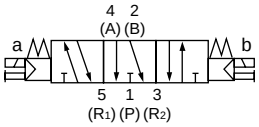
2-position double solenoid



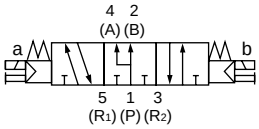
3-position
all ports closed



3-position A/B/R connection



3-position P/A/B connection



Manifold common specifications

Descriptions		
Manifold type		Integrated base
Installation method		Direct mount / DIN rail mount
Air supply and exhaust method		Common supply / common exhaust (Check valve integrated)
Pilot exhaust method	Internal pilot	Main valve / pilot operated valve common exhaust (Pilot exhaust check valve integrated)
	External pilot	Main valve / pilot operated valve individual exhaust
Piping direction		Valve top direction
Type of valve and operation method		Pilot operated soft spool valve
Working fluid		Compressed air
Max. working pressure MPa		0.7
Min. working pressure MPa		0.2 (2-position, 3-position)
Withstanding pressure MPa		1.05
Ambient temperature ℃		-5 to 55 (no freezing)
Fluid temperature ℃		5 to 55
Manual override		Non-locking / locking common type
Lubrication Note 1		Not required
Protective structure Note 2		Dust proof
Vibration/impact m/s²		50 or less / 300 or less
Working environment		Containing corrosive gas is impermissible.

Note 1 Use the turbine oil Class 1 ISO VG32 if lubricated. Excessive or intermittent lubrication results in instable operation.

Note 2 Check that water drops or oil, etc., do not come into contact. IP65 (jet-proof type) is used for DIN terminal box specifications. Note that the box must be fixed using the specified adaptive cord O.D. and tightening torque.

Note 3 The working pressure range is 0 to 0.7 MPa when the external pilot (option symbol: K) is selected. Set the external pilot pressure between 0.2 and 0.7 MPa.

Electric specifications

Descriptions		
Rated voltage	DC	12, 24
V	AC	100
Rated voltage fluctuation range		±10%
Holding current Note 4 A	24DC	0.023 (0.025)
	12DC	0.046 (0.050)
	100AC	0.010 (0.012)
Power consumption	24DC	0.55 (0.6)
Note 4 W	12DC	0.55 (0.6)
Apparent power VA	100AC	1.0 (1.2)
Heat proof class		B
Temperature rise ℃		50
Surge suppressor		Option
Indicator		With indicator light (option)

Note 4: The values in ( ) include the light.

Individual specifications

Descriptions		M3GA1/M4GA1		M3GA2/M4GA2		M3GA3/M4GA3	
		Direct mount	DIN rail mount	Direct mount	DIN rail mount	Direct mount	DIN rail mount
Max. station number	Standard (internal pilot)	20 stations	16 stations	20 stations	16 stations	20 stations	16 stations
	External pilot	12 stations	12 stations				
Port size	A/B port	Push-in joint ø4, ø6 M5		Push-in joint ø4, ø6, ø8 Rc1/8		Push-in joint ø6, ø8, ø10 Rc1/4	
	P/R1/R2 port	Rc1/8		Rc1/4		Rc3/8	
Manifold base weight calculation formula (n: station number) g	Standard	23n+52	25n+60	47n+64	49n+92	74n+88	76n+117
	External pilot	36n+105	38n+113	88n+135	90n+163	136n+194	138n+223

Refer to the "Precautions for Mounting the DIN Rail" (Page 77), and select the manifold.
For 10 or more manifold stations (5 stations for 4G3), supply and exhaust from ports on either side.
The manifold base weight is the value for screw specifications.

Flow characteristics

Model no.	Solenoid position		P → A/B		A/B → R1/R2	
			C (dm^3/ (s·bar))	b	C (dm^3/ (s·bar))	b
M3GA1 M4GA1	Two 3 port valve integrated type		0.86	0.31	0.66	0.22
	2-position		0.99	0.20	0.70	0.12
	3-position	All ports closed	0.94	0.23	0.99	0.09
		ABR connection	0.93	0.18	0.70	0.02
		PAB connection	1.1	0.28	1.0	0.12
M3GA2 M4GA2	Two 3 port valve integrated type		1.7	0.40	1.7	0.32
	2-position		2.3	0.36	1.7	0.33
	3-position	All ports closed	2.1	0.35	2.4	0.37
		ABR connection	2.2	0.37	1.8	0.29
		PAB connection	2.4	0.34	2.5	0.33
M3GA3 M4GA3	2-position		3.2	0.37	2.5	0.28
	3-position	All ports closed	2.9	0.35	3.2	0.35
		ABR connection	3.0	0.34	2.6	0.27
		PAB connection	3.3	0.30	3.3	0.32

Note 1: Effective sectional area S and sonic conductance C are converted as S ≒ 5.0 × C.
Note 2: Values for the built-in check valve apply for the 2-position, two 3 port valve integrated type and A/B/R connection.

Ozone specifications • Coolant proof specifications

Can be selected with "E" option "A" in How to Order on Page 158.

Clean room specifications (Catalog No. CB-033SA)

● Dust generation preventing structure for use in cleanrooms

** - VOLTAGE - P7*

M4GA1/2/3 Series

Individual wiring manifold; body porting

How to order

Manifold model no.

M 4GA1 1 0 - C6 - E2 H D - ○ - ○

3 port manifold model no.

M 3GA1 1 0 - C6 - E2 H D - ○ - ○

Discrete valve for base installation

4GA1 1 9 - C6 - E2 H —— ○

Discrete 3 port valve for base installation

3GA1 1 9 - C6 - E2 H —— ○

Ⓐ Model no.
Ⓑ Solenoid position
Ⓒ Port size
Ⓓ Electric connection
Ⓔ Option
Ⓕ Mount type
Ⓖ Station number
Ⓗ Voltage

* Complete manifold specification sheet (Pages 242 to 253).

Symbol	Descriptions	Ⓐ Model no. 3GA1	3GA2	3GA3	4GA1	4GA2	4GA3
Ⓑ Solenoid position							
1	2-position single solenoid				●	●	●
2	2-position double solenoid				●	●	●
3	3-position all ports closed				●	●	●
4	3-position A/B/R connection				●	●	●
5	3-position P/A/B connection				●	●	●
1	2-position single solenoid normally closed	●	●	●			
11	2-position single solenoid normally open	●	●	●			
66	Two 3 port valve integrated type Note 1, 2 A side: normally closed B side: normally closed	●	●				
8	Mix manifold	●	●	●	●	●	●
Ⓒ Port size							
Port	A/B port	P/R1/R2 port (2)= Rc1/8 (3)= Rc1/4 (4)= Rc3/8					
C4	ø4 push-in joint	(2)	(3)		(2)	(3)	
C6	ø6 push-in joint	(2)	(3)	(4)	(2)	(3)	(4)
C8	ø8 push-in joint		(3)	(4)		(3)	(4)
C10	ø10 push-in joint			(4)			(4)
CX	Push-in joint mix Note 7	(2)	(3)	(4)	(2)	(3)	(4)
M5	M5	(2)			(2)		
06	Rc1/8		(3)			(3)	
08	Rc1/4			(4)			(4)
Ⓓ Electric connection							
	Refer to the next page for electric connection.						
Ⓔ Option							
Blank	None	●	●	●	●	●	●
H	With check valve Note 4	●	●	●	●	●	●
K	External pilot Note 5	●	●	●	●	●	●
A	Ozone/coolant proof	●	●	●	●	●	●
F	A/B port filter integrated (P port: provided as standard)	●	●	●	●	●	●
Z1	Air supply spacer Note 6	●	●	●	●	●	●
Z2	In stop valve spacer Note 6		●	●		●	●
Ⓕ Mount type							
Blank	Direct mount type	●	●	●	●	●	●
D	DIN rail mount type	●	●	●	●	●	●
Ⓖ Station number							
2	2 stations	●	●	●	●	●	●
to	to						
20	Refer to Page 156 for max. station number.						
Ⓗ Voltage							
1	100 VAC (rectified bridge integrated)	●	●	●	●	●	●
3	24 VDC	●	●	●	●	●	●
4	12 VDC	●	●	●	●	●	●

is not available.

⚠ Note on model no. selection

Note 1: Select M4GA*80 when mixing with the 4, 5 port valves. Select M3GA*80 when mixing with the masking plate.

Note 2: Combination with the external pilot (K) is not available. The dimension drawings are the same dimensions as each 2-position double solenoid.

Note 4: The check valve specifications (H) are not available for the 3-position all port closed or P/A/B connection. Refer to Page 382 for details on the check valve.

Note 5: Consult CKD for details on using vacuum with the external pilot (K).

Note 6: Specify the spacer mounting location and quantity in manifold specifications. Refer to Pages 234 to 236 for details.

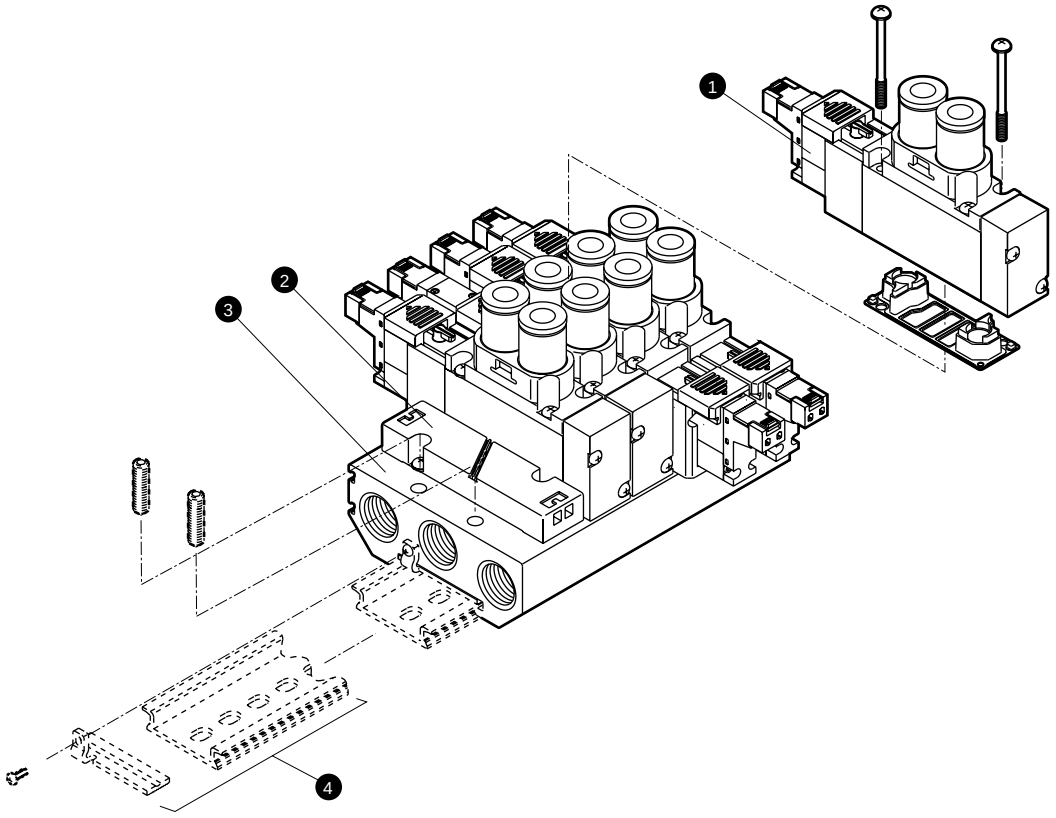
Note 7: The push-in joint cannot be mixed with the discrete valve's 4(A) or 2(B) port.

(Electric connection list)

		Ⓐ Model no.					
		3GA1	3GA2	3GA3	4GA1	4GA2	4GA3
Ⓓ Electric connection							
Blank	Grommet lead wire (300mm) Note 3	●	●	●	●	●	●
B	DIN terminal box (Pg7) With surge suppressor and indicator light		●	●		●	●
E-connector (upward/lateral common)							
E0	Lead wire (300mm)	●	●	●	●	●	●
E00	Lead wire (500mm)	●	●	●	●	●	●
E01	Lead wire (1000mm)	●	●	●	●	●	●
E02	Lead wire (2000mm)	●	●	●	●	●	●
E03	Lead wire (3000mm)	●	●	●	●	●	●
E2	Lead wire (300mm) With surge suppressor and indicator light	●	●	●	●	●	●
E20	Lead wire (500mm) With surge suppressor and indicator light	●	●	●	●	●	●
E21	Lead wire (1000mm) With surge suppressor and indicator light	●	●	●	●	●	●
E22	Lead wire (2000mm) With surge suppressor and indicator light	●	●	●	●	●	●
E23	Lead wire (3000mm) With surge suppressor and indicator light	●	●	●	●	●	●
E0N	No lead wire (without socket)	●	●	●	●	●	●
E2N	No lead wire (without socket) With surge suppressor and indicator light	●	●	●	●	●	●
E3	No lead wire (socket and terminal attached) With surge suppressor and indicator light	●	●	●	●	●	●
E1	No lead wire (socket and terminal attached)	●	●	●	●	●	●
EJ-connector (socket with cover, upward/lateral common)							
E01J	Lead wire (1000mm)	●	●	●	●	●	●
E02J	Lead wire (2000mm)	●	●	●	●	●	●
E03J	Lead wire (3000mm)	●	●	●	●	●	●
E21J	Lead wire (1000mm) With surge suppressor and indicator light	●	●	●	●	●	●
E22J	Lead wire (2000mm) With surge suppressor and indicator light	●	●	●	●	●	●
E23J	Lead wire (3000mm) With surge suppressor and indicator light	●	●	●	●	●	●

Note 3: The grommet lead wire specifications are available only for 24, 12 VDC.

Explanation of manifold components and parts list



Main parts list

No.	Component name		Model no.	Descriptions	Remarks
1	Discrete valve for base installation		4GA**9- Port size - Electric connection Option - Voltage Solenoid position Flow rate	Discrete valve Gasket Two set screws Two PR check valves	Refer to Page 158 for details.
2	Masking plate	3G1/4G1	4G1-MP	Masking plate Gasket Two set screws	* 3G2/4G2 and 3G3/4G3 have two PR check valves.
		3G2/4G2	4G2-MP		
		3G3/4G3	4G3-MP		
3	Manifold base assembly		M4GA*-00- Option - Station number Flow rate	Manifold base	
4	DIN rail kit				Refer to Page 77 for details.

Repair parts and related parts list

No.	Part name	Model no.
-	Coil assembly	4G- Electric connection - * - COIL - Voltage Blank: Standard A: Ozone proof Blank: Grommet lead wire
-	E-connector socket assembly	4G-SOCKET-ASSY- Electric connection - Voltage
-	EJ-connector socket assembly	4G-SOCKET-ASSY- Electric connection
-	Silencer	M5: SLM-M5
		Rc1/8: SLW-6A, SLW-6S
		Rc1/4: SLW-8A, SLW-8S
		Rc3/8: SLW-10A, SLW-10L

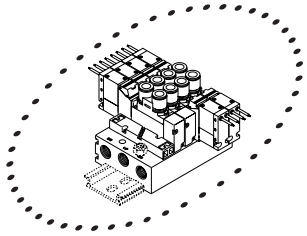
No.	Part name			Model no.
-	Cartridge type push in joint and related parts	4G1	ø4 straight	4G1-JOINT-C4
			ø6 straight	4G1-JOINT-C6
			Plug cartridge	4G1-JOINT-CPG
		4G2	ø4 straight	4G2-JOINT-C4
			ø6 straight	4G2-JOINT-C6
			ø8 straight	4G2-JOINT-C8
			Plug cartridge	4G2-JOINT-CPG
		4G3	ø6 straight	4G3-JOINT-C6
			ø8 straight	4G3-JOINT-C8
			ø10 straight	4G3-JOINT-C10
			Plug cartridge	4G3-JOINT-CPG

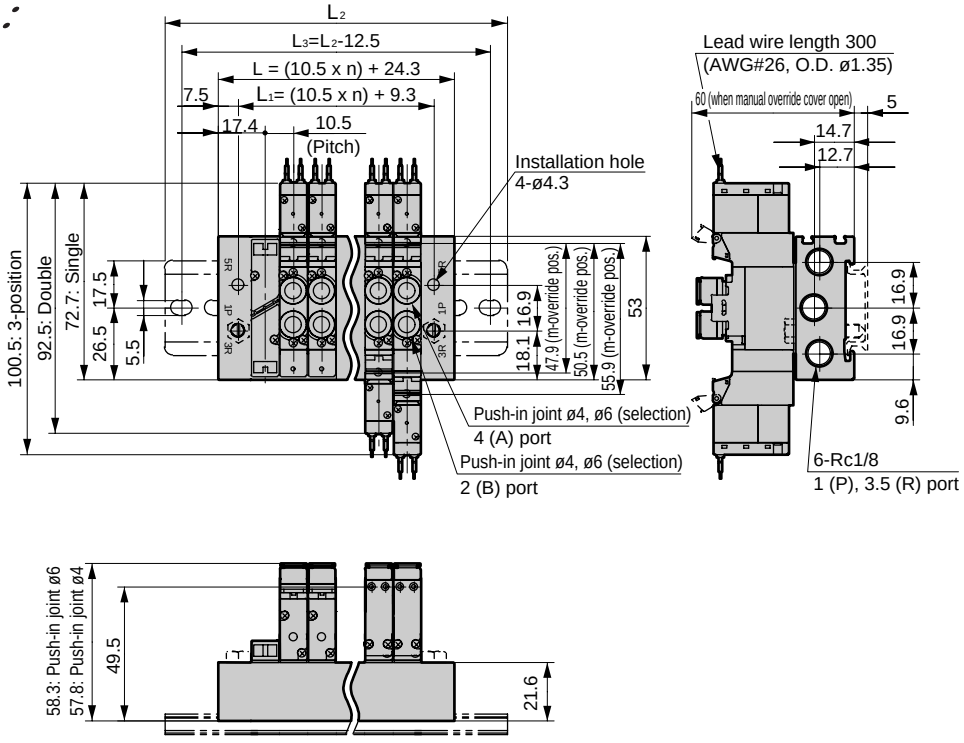
Dimensions

M4GA1

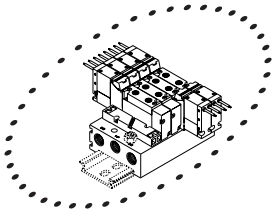
● Grommet lead wire (blank)

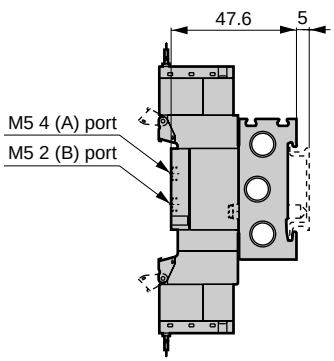
* M3GA1 has the same dimensions as the single type.
The A or B port is a blank plug.
The type with two 3 port valves has the same dimensions as the double type.



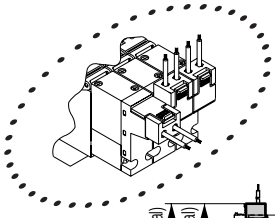


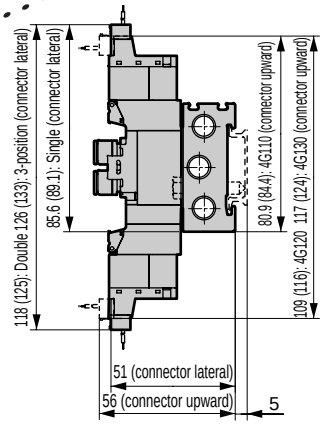
● M5 female thread type (M5)



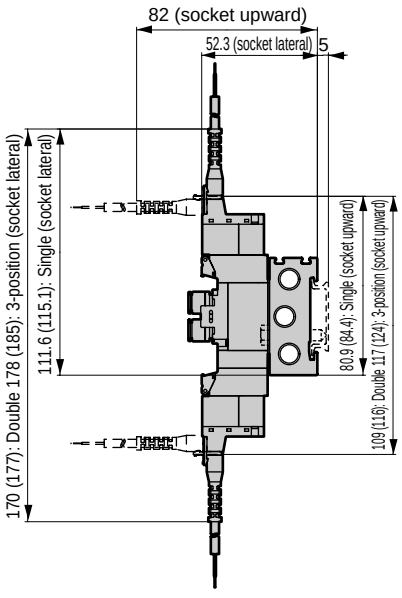


● E-connector type (E)





● EJ-connector type (E**J)



Note: Values in parentheses are for 100 VAC.

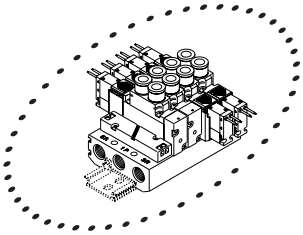
Sta. no.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L	45.3	55.8	66.3	76.8	87.3	97.8	108.3	118.8	129.3	139.8	150.3	160.8	171.3	181.8	192.3	202.8	213.3	223.8	234.3
L_1	30.3	40.8	51.3	61.8	72.3	82.8	93.3	103.8	114.3	124.8	135.3	145.8	156.3	168.8	177.3	187.8	198.3	208.8	219.3
L_2	87.5	100.0	112.5	125.0	137.5	150.0	150.0	162.5	175.0	187.5	200.0	212.5	212.5	225.0	237.5				
L_3	75.0	87.5	100.0	112.5	125.0	137.5	137.5	150.0	162.5	175.0	187.5	200.0	200.0	212.5	225.0				

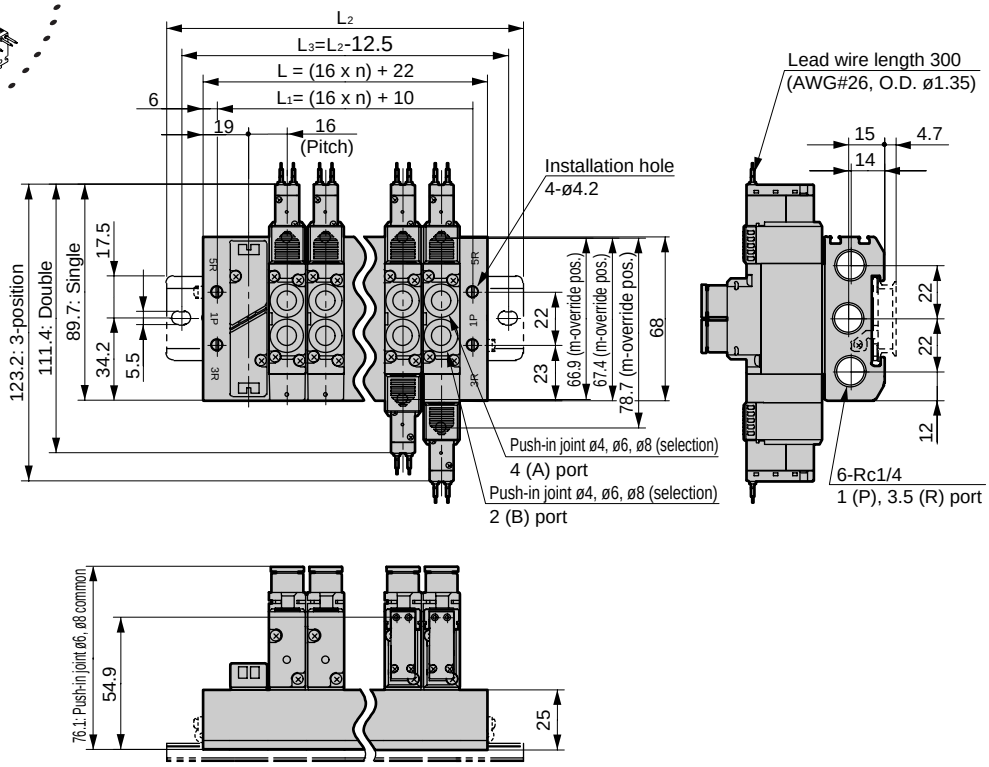
Dimensions

M4GA2

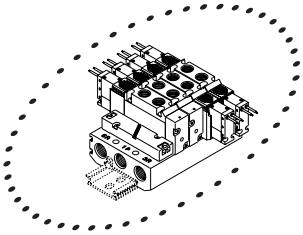
● Grommet lead wire (blank)

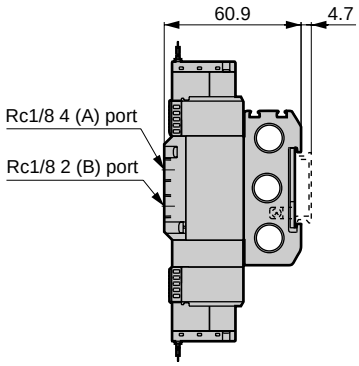
* M3GA2 has the same dimensions as the single type.
The A or B port is a blank plug.
The type with two 3 port valves has the same dimensions as the double type.



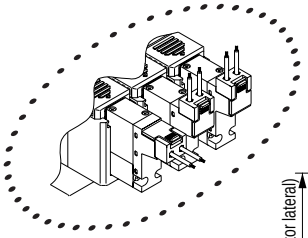


● Rc1/8 female thread type (06)

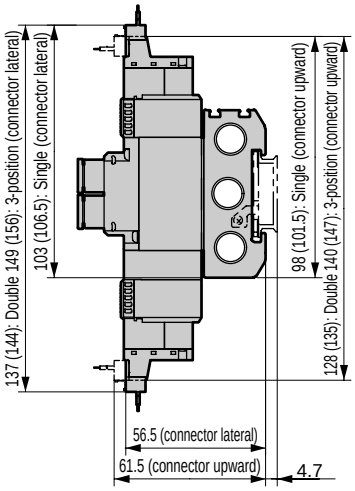




● E-connector type (E)



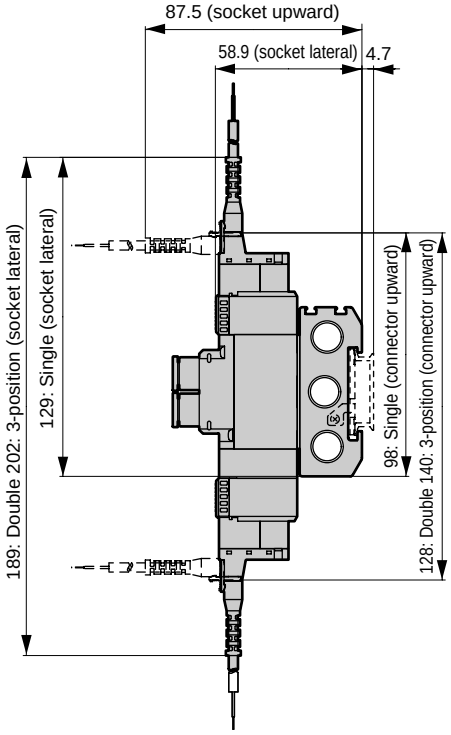
Note: Values in parentheses are for 100 VAC.



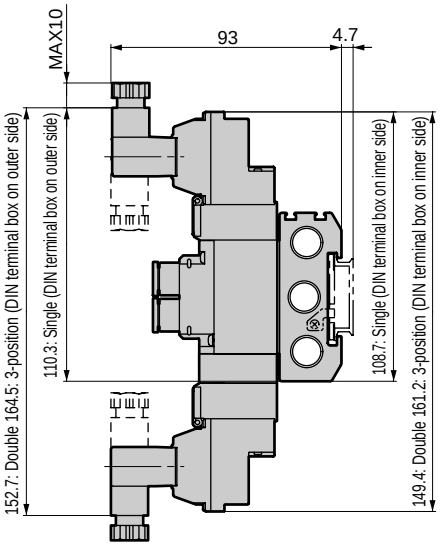
Sta. no.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L	54	70	86	102	118	134	150	166	182	198	214	230	246	262	278	294	310	326	342
L_1	42	58	74	90	106	122	138	154	170	186	202	218	234	250	266	282	298	314	330
L_2	100.0	112.5	137.5	150.0	162.5	175.0	200.0	212.5	225.0	250.0	262.5	275.0	287.5	312.5	325.0				
L_3	87.5	100.0	125.0	137.5	150.0	162.5	187.5	200.0	212.5	237.5	250.0	262.5	275.0	300.0	312.5				

Dimensions

● EJ-connector type (E**J)



● DIN terminal box type (B)



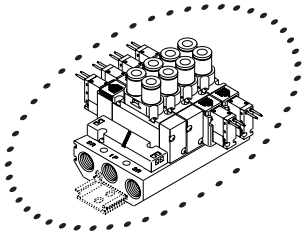
Note: The DIN terminal box assembly is shipped facing inward.

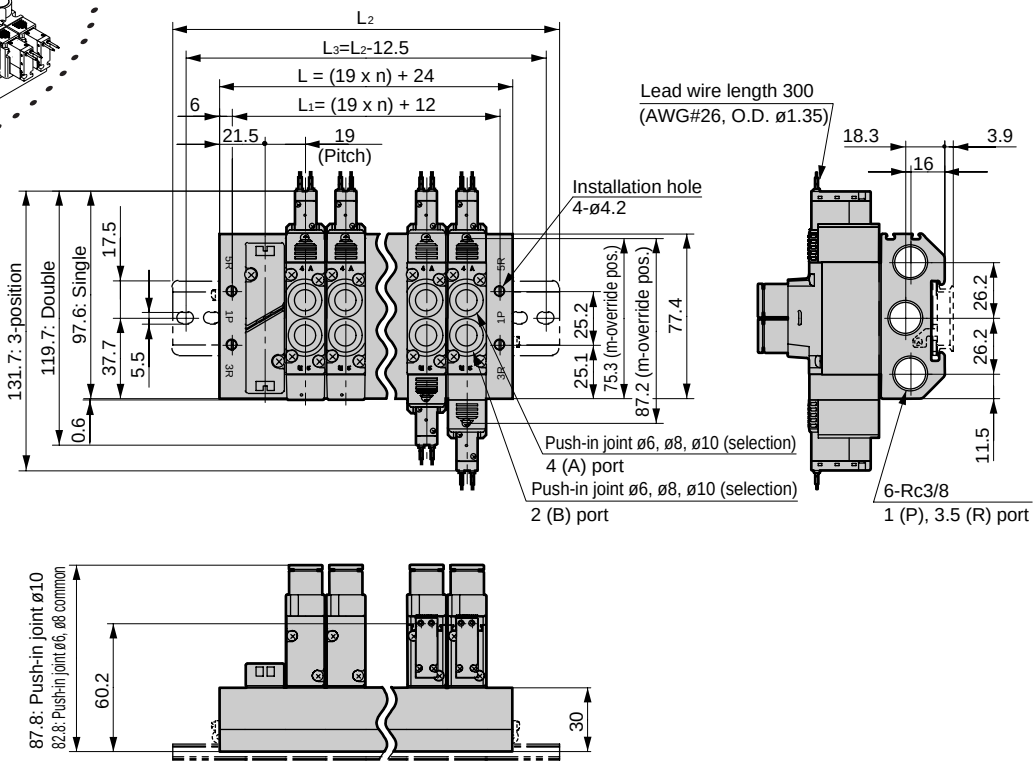
Dimensions CAD

M4GA3

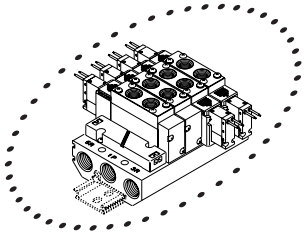
● Grommet lead wire (blank)

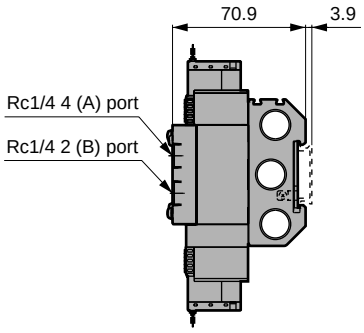
* M3GA3 has the same dimensions as the single type. The A or B port is a blank plug.



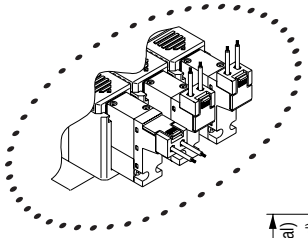


● Rc1/4 female thread type (08)

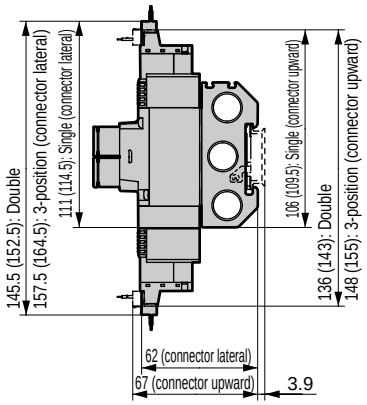




● E-connector type (E)



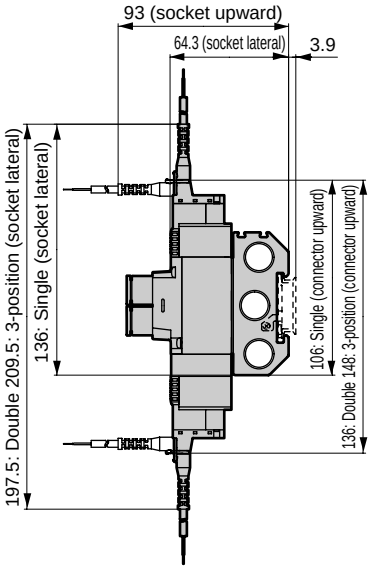
Note: Values in parentheses are for 100 VAC.



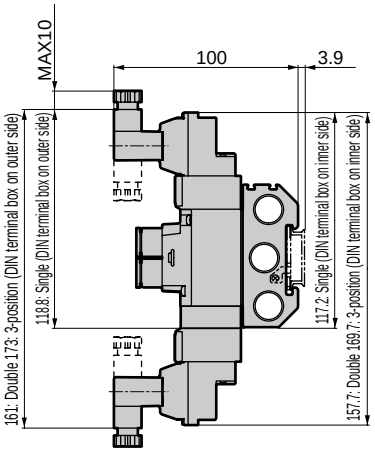
Sta. no.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L	62	81	100	119	138	157	176	195	214	233	252	271	290	309	328	347	366	385	404
L_1	50	69	88	107	126	145	164	183	202	221	240	259	278	297	316	335	354	373	392
L_2	112.5	125.0	150.0	162.5	187.5	200.0	225.0	237.5	262.5	275.0	300.0	312.5	337.5	350.0	375.0				
L_3	100.0	112.5	137.5	150.0	175.0	189.5	212.5	225.0	250.0	262.5	287.5	300.0	325.0	337.5	362.5				

Dimensions

● EJ-connector type (E**J)



● DIN terminal box type (B)



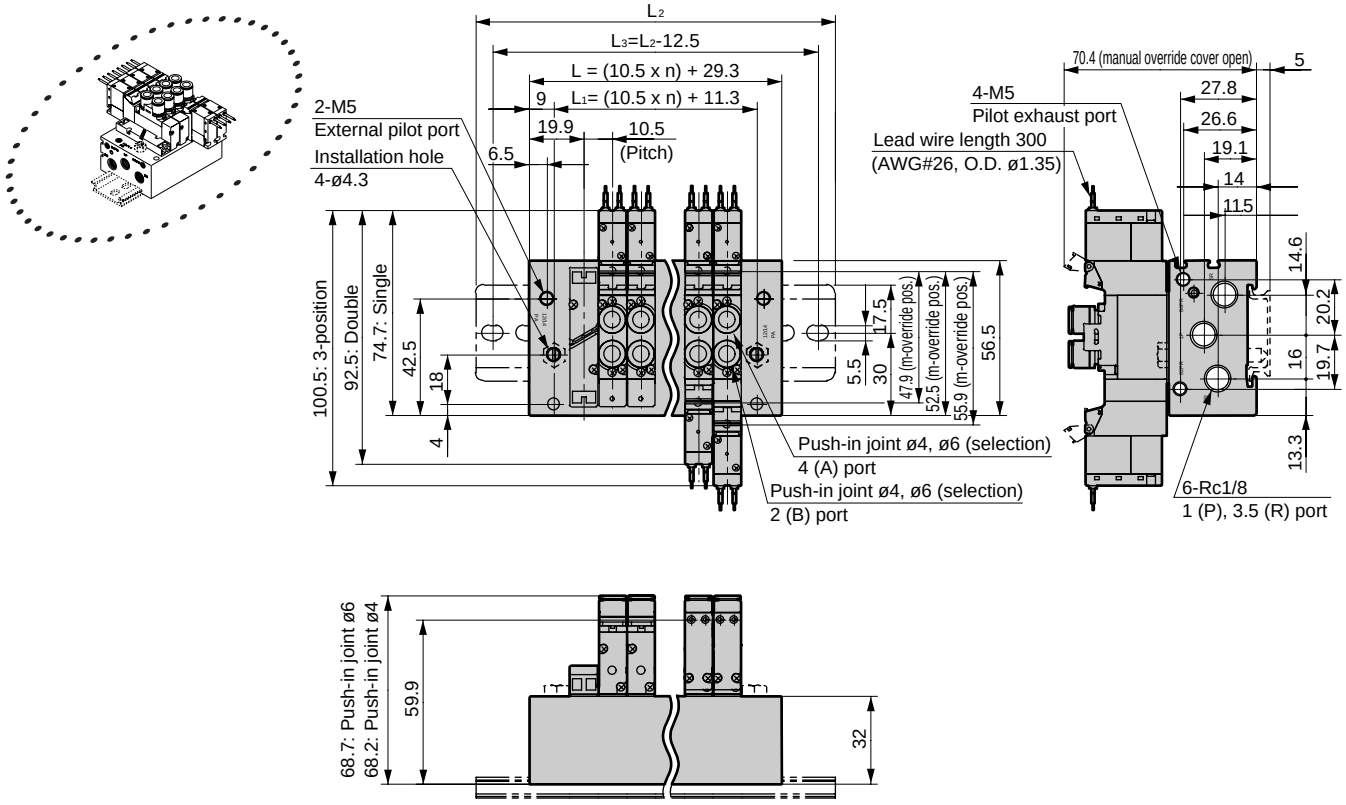
Note: The DIN terminal box assembly is shipped facing inward.

Dimensions CAD

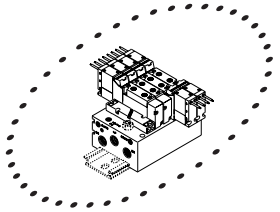
M4GA1

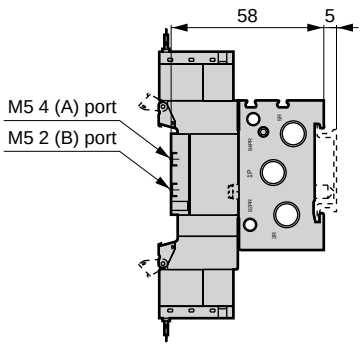
● External pilot (K)
Grommet lead wire (blank)

* M3GA1 has the same dimensions as the single type.
The A or B port is a blank plug.

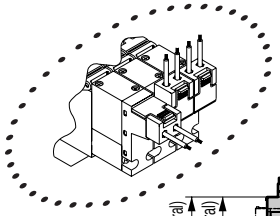


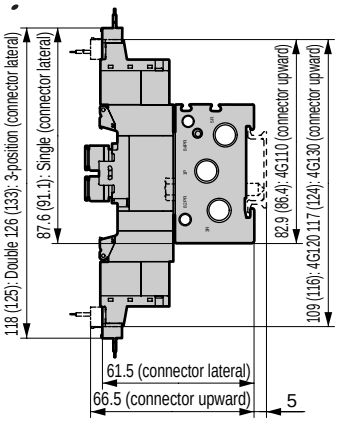
● External pilot (K)
M5 female thread type (M5)



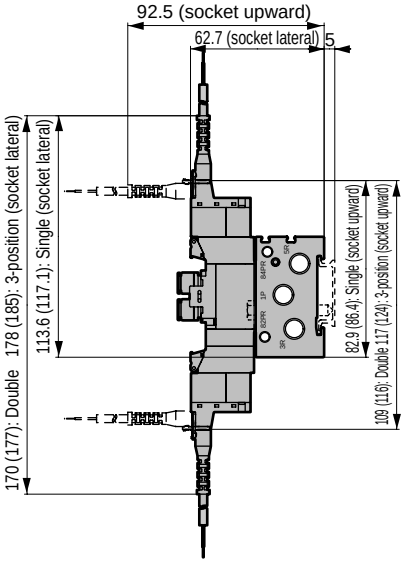


● External pilot (K)
E-connector type (E)





● External pilot (K)
EJ-connector type (E**J)



Note: Values in parentheses are for 100 VAC.

Sta. no.	2	3	4	5	6	7	8	9	10	11	12
L	50.3	60.8	71.3	81.8	92.3	102.8	113.3	123.8	134.3	144.8	155.3
L_1	32.3	42.8	53.3	63.8	74.3	84.8	95.3	105.8	116.3	126.8	137.3
L_2	100.0	112.5	112.5	125.0	137.5	150.0	162.5	175.0	175.0	187.5	200.0
L_3	87.5	100.0	100.0	112.5	125.0	137.5	150.0	162.5	162.5	175.0	187.5

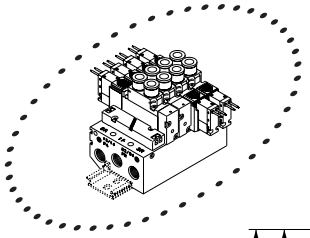
MEMO

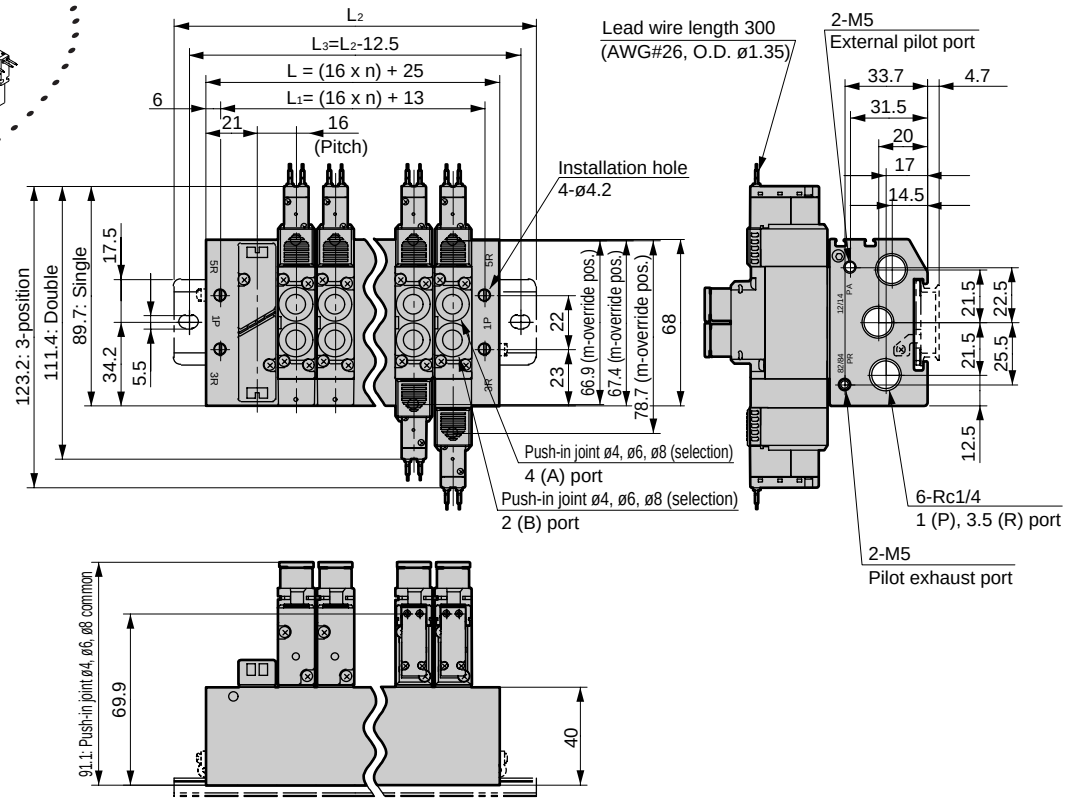
Dimensions

M4GA2

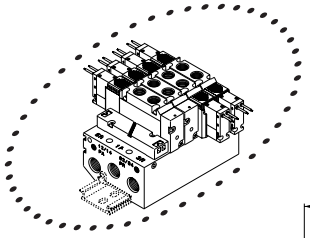
● External pilot (K)
Grommet lead wire (blank)

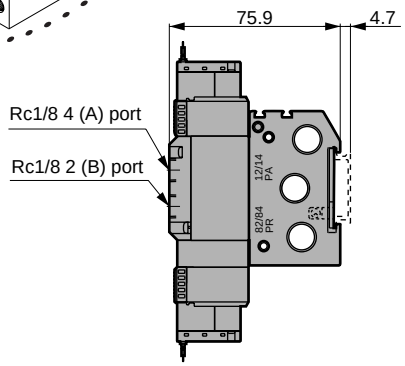
* M3GA2 has the same dimensions as the single type. The A or B port is a blank plug.



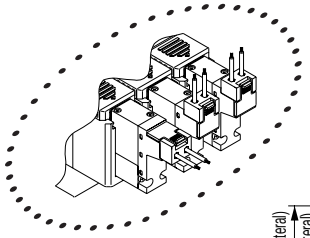


● External pilot (K)
Rc1/8 female thread type (06)

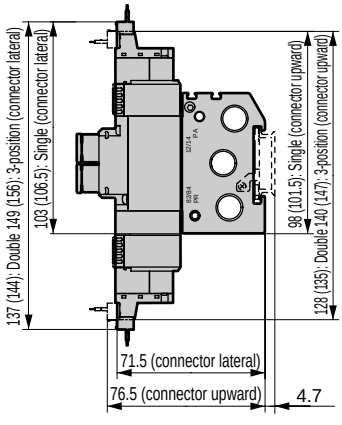




● External pilot (K)
E-connector type (E)



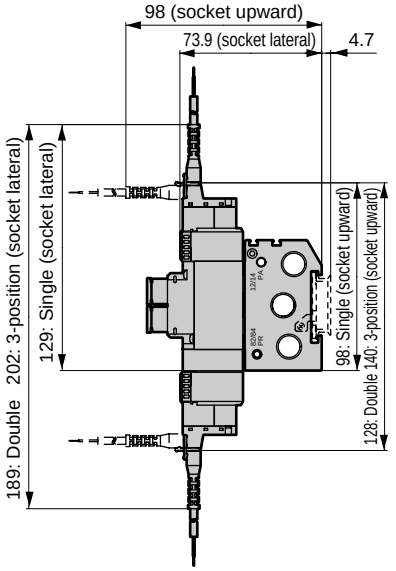
Note: Values in parentheses are for 100 VAC.



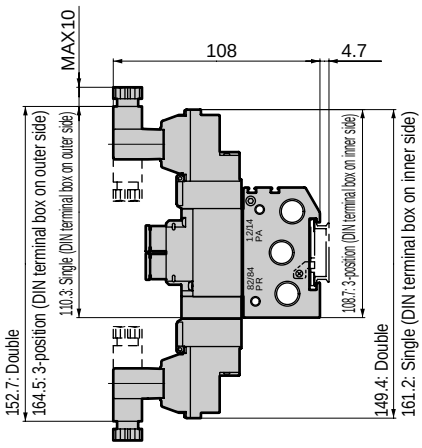
Sta. no.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L	57	73	89	105	121	137	153	169	185	201	217	233	249	265	281	297	313	329	345
L_1	45	61	77	93	109	125	141	157	173	189	205	221	237	253	269	285	301	317	333
L_2	100.0	125.0	137.5	150.0	162.5	187.5	200.0	212.5	225.0	250.0	262.5	275.0	300.0	312.5	325.0				
L_3	87.5	112.5	125.0	137.5	150.0	175.0	187.5	200.0	212.5	237.5	250.0	262.5	287.5	300.0	312.5				

Dimensions

● External pilot (K)
EJ-connector type (E**J)



● External pilot (K)
DIN terminal box type (B)



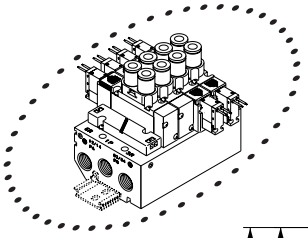
Note: The DIN terminal box assembly is shipped facing inward.

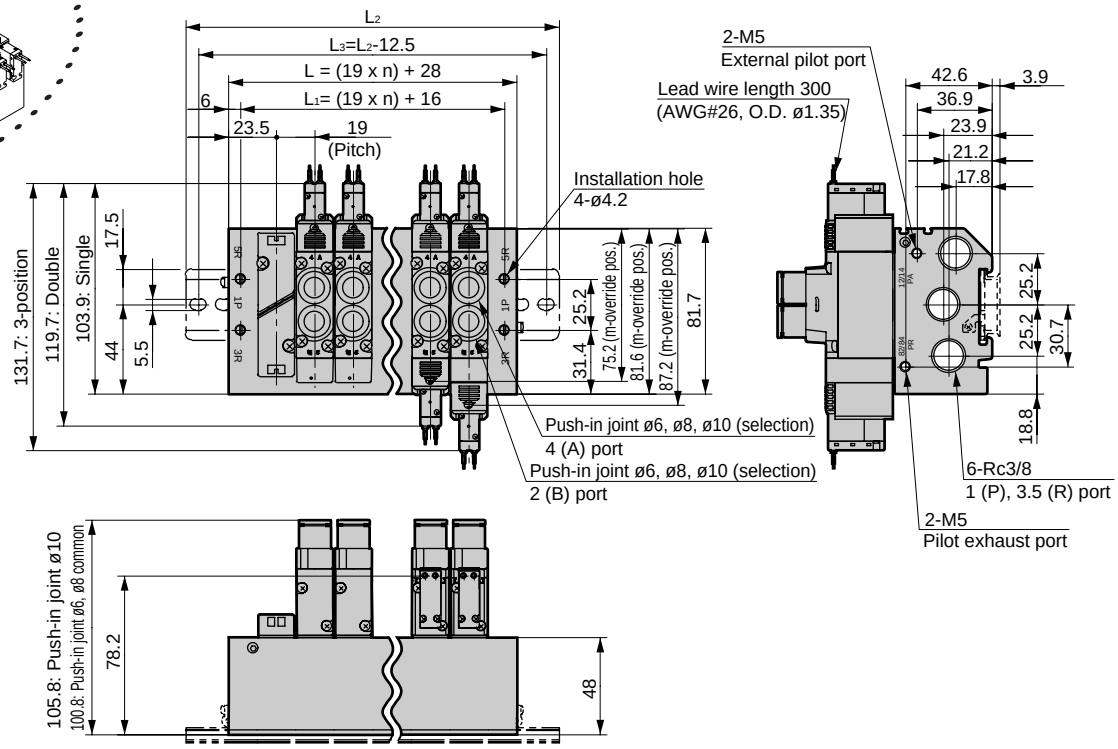
Dimensions CAD

M4GA3

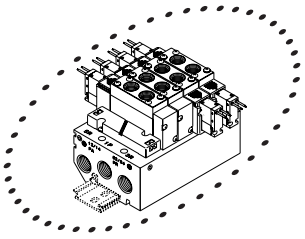
● External pilot (K)
Grommet lead wire (blank)

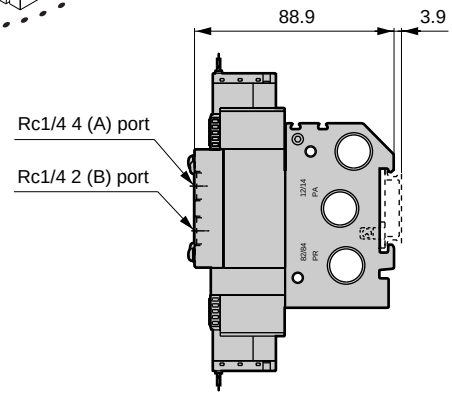
* M3GA3 has the same dimensions as the single type. The A or B port is a blank plug.



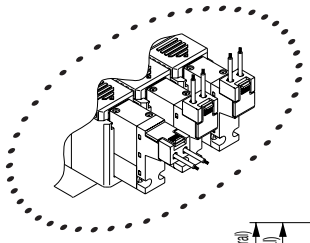


● External pilot (K)
Rc1/4 female thread type (08)

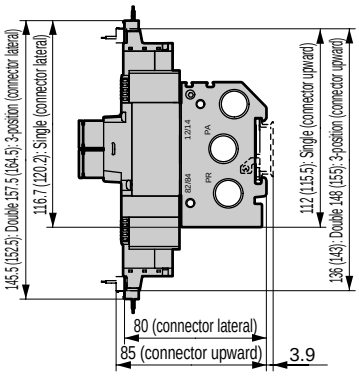




● External pilot (K)
E-connector type (E)



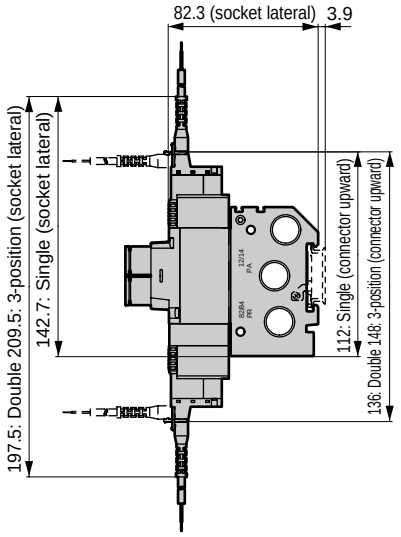
Note: Values in parentheses are for 100 VAC.



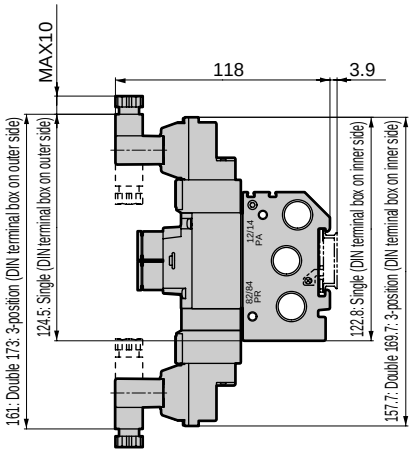
Sta. no.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L	66	85	104	123	142	161	180	199	218	237	256	275	294	313	332	351	370	389	408
L_1	54	73	92	111	130	149	168	187	206	225	244	263	282	301	320	339	358	377	396
L_2	112.5	125.0	150.0	175.0	187.5	212.5	225.0	250.0	262.5	287.5	300.0	325.0	337.5	362.5	375.0				
L_3	100.0	112.5	137.5	162.5	175.0	200.0	212.5	237.5	250.0	275.0	287.5	312.5	325.0	350.0	362.5				

Dimensions

● External pilot (K)
EJ-connector type (E**J)



● External pilot (K)
DIN terminal box type (B)



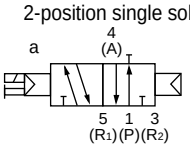
Note: The DIN terminal box assembly is shipped facing inward.

Individual wiring manifold
Sub-base porting
Direct mount type / DIN rail mount type
M3GB1/2, M4GB1/2/3- (D) Series

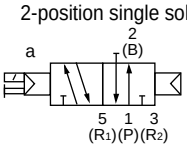
● Applicable cylinder bore size: ø20 to ø100 CE Refer to Intro 17 for details. RoHS CAD

JIS symbol

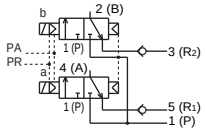
● 3 port valve
2-position single solenoid N.C. type



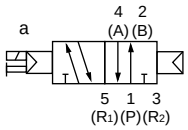
2-position single solenoid N.O. type



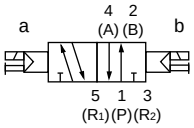
● Two 3 port valve integrated type
(A side valve: N.C. type, B side valve: N.C. type)



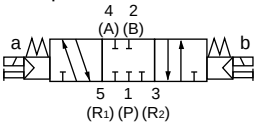
● 5 port valve
2-position single solenoid



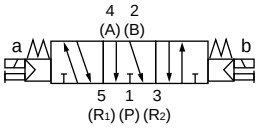
2-position double solenoid



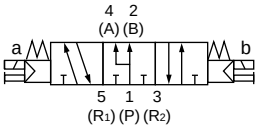
3-position
All ports closed



3-position A/B/R connection



3-position P/A/B connection



Manifold common specifications

Descriptions		
Manifold type		Integrated base
Installation method		Direct mount / DIN rail mount
Air supply and exhaust method		Common supply / common exhaust (Check valve integrated)
Pilot exhaust method	Internal pilot	Main valve / pilot operated valve common exhaust (Pilot exhaust check valve integrated)
	External pilot	Main valve / pilot operated valve individual exhaust
Piping direction		Sub-base side porting
Type of valve and operation method		Pilot operated soft spool valve
Working fluid		Compressed air
Max. working pressure MPa		0.7
Min. working pressure MPa		0.2 (2-position, 3-position)
Withstanding pressure MPa		1.05
Ambient temperature °C		-5 to 55 (no freezing)
Fluid temperature °C		5 to 55
Manual override		Non-locking/locking common type
Lubrication Note 1		Not required
Protective structure Note 2		Dust proof
Vibration/impact m/s²		50 or less / 300 or less
Working environment		Containing corrosive gas is impermissible.

Note 1 Use the turbine oil Class 1 ISO VG32 if lubricated. Excessive or intermittent lubrication results in instable operation.

Note 2 Check that water drops or oil, etc., do not come into contact. IP65 (jet-proof type) is used for DIN terminal box specifications. Note that the box must be fixed using the specified adaptive cord O.D. and tightening torque.

Note 3 The working pressure range is 0 to 0.7 MPa when the external pilot (option symbol: K) is selected. Set the external pilot pressure between 0.2 and 0.7 MPa.

Electric specifications

Descriptions		
Rated voltage	DC	12 , 24
V	AC	100
Rated voltage fluctuation range		±10%
Holding current	24 VDC	0.023 (0.025)
Note 4 A	12 VDC	0.046 (0.050)
	100 VAC	0.010 (0.012)
Power consumption	24 VDC	0.55 (0.6)
Note 4 W	12 VDC	0.55 (0.6)
Apparent power VA	100 VAC	1.0 (1.2)
Heat proof class		B
Temperature rise °C		50
Surge suppressor		Option
Indicator		With indicator light (option)

Note 4: The values in ( ) include the light.

Individual specifications

Descriptions		M3GB1/M4GB1		M3GB2/M4GB2		M4GB3	
		Direct mount	DIN rail mount	Direct mount	DIN rail mount	Direct mount	DIN rail mount
Max. station number	Standard (internal pilot)	20 stations	16 stations	20 stations	16 stations	20 stations	16 stations
	External pilot	12 stations	12 stations				
Port size	A/B port	Push-in joint ø4, ø6 M5		Push-in joint ø4, ø6, ø8 Rc1/8		Push-in joint ø6, ø8, ø10 Rc1/4	
	P/R1/R2 port	Rc1/8		Rc1/4		Rc3/8	
Manifold base weight calculation formula (n: station number) g	Standard	35n+61	36n+115	71n+106	73n+134	113n+170	115n+119
	External pilot	35n+106	36n+114	76n+135	78n+166	118n+194	120n+223

Refer to the "Precautions for Mounting the DIN Rail" (Page 77), and select the manifold.
For 10 or more manifold stations (5 stations for 4G3), supply and exhaust from ports on either side.
The manifold base weight is the value for screw specifications.

Flow characteristics

Model no.	Solenoid position		P → A/B		A/B → R1/R2	
			C (dm³/ (s·bar))	b	C (dm³/ (s·bar))	b
M3GB1 M4GB1	Two 3 port valve integrated type		0.86	0.35	0.67	0.23
	2-position		1.1	0.22	0.70	0.10
	3-position	All ports closed	0.98	0.22	1.0	0.11
		ABR connection	0.97	0.35	0.68	0.24
		PAB connection	1.1	0.38	0.99	0.22
M3GB2 M4GB2	Two 3 port valve integrated type		1.7	0.44	1.6	0.30
	2-position		2.4	0.34	1.7	0.31
	3-position	All ports closed	2.2	0.34	2.4	0.29
		ABR connection	2.2	0.34	1.8	0.27
		PAB connection	2.4	0.29	2.4	0.29
M4GB3	2-position		3.5	0.34	2.6	0.27
	3-position	All ports closed	3.1	0.33	3.3	0.22
		ABR connection	3.0	0.30	2.7	0.22
		PAB connection	3.6	0.36	3.3	0.28

Note 1: Effective sectional area S and sonic conductance C are converted as S ≒ 5.0 × C.
Note 2: Values for the built-in check valve apply for the 2-position, two 3 port valve integrated type and A/B/R connection.

Ozone specifications • Coolant proof specifications

Can be selected with "E" option "A" in How to Order on Page 174.

Clean room specifications (Catalog No. CB-033SA)

● Dust generation preventing structure for use in cleanrooms

**-VOLTAGE- P7*

M4GB1/2/3 Series

Individual wiring manifold; sub-base porting

How to order

Manifold model no.

M 4GB1 1 0 - C6 - E2 H D - ○ - ○

3 port manifold model no.

M 3GB1 66 0 - C6 - E2 H D - ○ - ○

Discrete valve for base installation

4GB1 1 9 - 00 - E2 H — ○

3 port discrete valve for base installation

3GB1 66 9 - 00 - E2 H — ○

Ⓐ Model no.
Ⓑ Solenoid position
Ⓒ Port size
Note 3
Note 4
Ⓓ Electric connection
Ⓔ Option
Ⓕ Mount type
Ⓖ Station number
Ⓗ Voltage

* Complete manifold specification sheet (Pages 242 to 253).

Symbol	Descriptions	Ⓐ Model no. 3GB1	3GB2	4GB1	4GB2	4GB3
Ⓑ Solenoid position						
1	2-position single solenoid			●	●	●
2	2-position double solenoid			●	●	●
3	3-position all ports closed			●	●	●
4	3-position A/B/R connection			●	●	●
5	3-position P/A/B connection			●	●	●
66	Two 3 port valve integrated type Note 1, 2 — A side valve: normally closed / B side valve: normally closed	●	●			
8	Mix manifold	●	●	●	●	●

Ⓒ Port size Port	A/B port	P/R1/R2 port (2)= Rc1/8 (3)= Rc1/4 (4)= Rc3/8				
C4	ø4 push-in joint	(2)	(3)	(2)	(3)	
C6	ø6 push-in joint	(2)	(3)	(2)	(3)	(4)
C8	ø8 push-in joint		(3)		(3)	(4)
C10	ø10 push-in joint					(4)
CL4	ø4 push-in joint L type (upward)			(2)		
CL6	ø6 push-in joint L type (upward)			(2)	(3)	
CL8	ø8 push-in joint L type (upward)				(3)	(4)
CL10	ø10 push-in joint L type (upward)					(4)
CX	Push-in joint mix	(2)	(3)	(2)	(3)	(4)
M5	M5	(2)		(2)		
06	Rc1/8		(3)		(3)	
08	Rc1/4					(4)

Ⓓ Electric connection

Refer to the next page for electric connection.

Ⓔ Option						
Blank	None	●	●	●	●	●
H	With check valve Note 6	●	●	●	●	●
K	External pilot Note 7			●	●	●
A	Ozone/coolant proof	●	●	●	●	●
F	A/B port filter integrated (P port: provided as standard)	●	●	●	●	●
Z1	Air supply spacer Note 8	●	●	●	●	●
Z2	In stop valve spacer Note 8		●		●	●

Ⓕ Mount type						
Blank	Direct mount type Note 9	●	●	●	●	●
D	DIN rail mount type	●	●	●	●	●

Ⓖ Station number						
2	2 stations	●	●	●	●	●
to	to					
20	Refer to Page 172 for max. station number.					

Ⓗ Voltage						
1	100 VAC (rectified bridge integrated)	●	●	●	●	●
3	24 VDC	●	●	●	●	●
4	12 VDC	●	●	●	●	●

is not available.

Note on model no. selection

Note 1: Select M4GB*80 when mixing with the 4, 5 port valves. Select M3GB*80 when mixing with the masking plate.

Note 2: Combination with the external pilot (K) is not available. The dimension drawings are the same dimensions as each 2-position double solenoid.

Note 3: CL* push-in joint L (upward) is used only for the single solenoid manifold. The A port is a long elbow and the B port a short elbow.

Note 4: A/B port sizes do not differ for push-in joint L (upward). If an "X" plug is designated for the A or B port, the other port will be a short elbow.

Note 6: The check valve specifications (H) are not available for the 3-position all port closed or P/A/B connection. Refer to Page 382 for details on the check valve.

Note 7: Consult CKD for details on using vacuum with the external pilot (K).

Note 8: Specify the spacer mounting location and quantity in manifold specifications. Refer to Pages 234 to 236 for details.

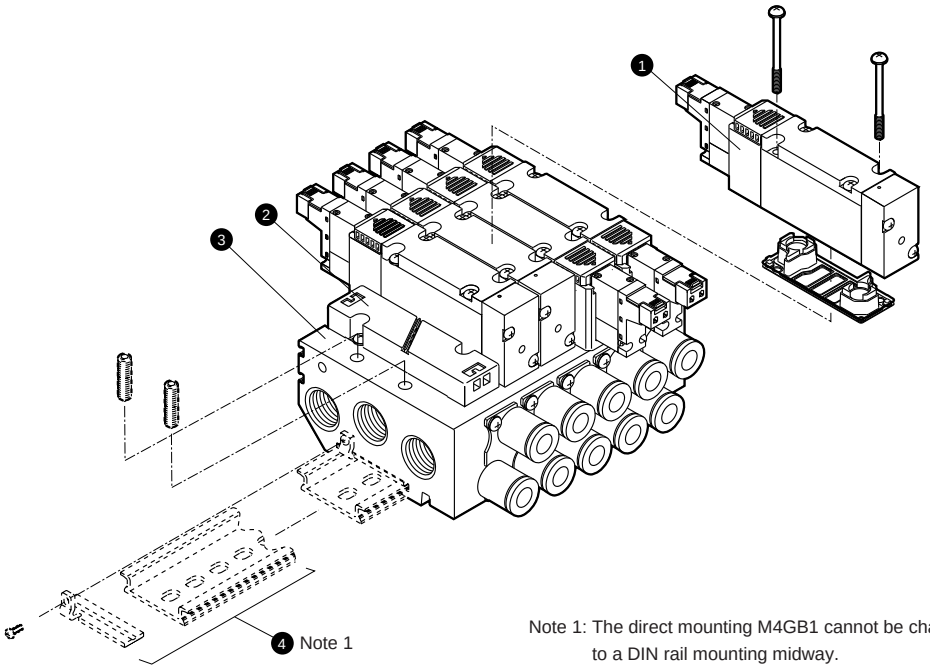
Note 9: The direct mounting M4GB1 cannot be changed to a DIN rail mounting midway.

(Electric connection)

		Ⓐ Model no.				
		3GB1	3GB2	4GB1	4GB2	4GB3
Ⓓ Electric connection						
Blank	Grommet lead wire (300mm) Note 5	●	●	●	●	●
B	DIN terminal box (Pg7) With surge suppressor and indicator light		●		●	●
E-connector (upward/lateral common)						
E0	Lead wire (300mm)	●	●	●	●	●
E00	Lead wire (500mm)	●	●	●	●	●
E01	Lead wire (1000mm)	●	●	●	●	●
E02	Lead wire (2000mm)	●	●	●	●	●
E03	Lead wire (3000mm)	●	●	●	●	●
E2	Lead wire (300mm) With surge suppressor and indicator light	●	●	●	●	●
E20	Lead wire (500mm) With surge suppressor and indicator light	●	●	●	●	●
E21	Lead wire (1000mm) With surge suppressor and indicator light	●	●	●	●	●
E22	Lead wire (2000mm) With surge suppressor and indicator light	●	●	●	●	●
E23	Lead wire (3000mm) With surge suppressor and indicator light	●	●	●	●	●
E0N	No lead wire (without socket)	●	●	●	●	●
E2N	No lead wire (without socket) With surge suppressor and indicator light	●	●	●	●	●
E3	No lead wire (socket and terminal attached) With surge suppressor and indicator light	●	●	●	●	●
E1	No lead wire (socket and terminal attached)	●	●	●	●	●
EJ-connector (socket with cover, upward/lateral common)						
E01J	Lead wire (1000mm)	●	●	●	●	●
E02J	Lead wire (2000mm)	●	●	●	●	●
E03J	Lead wire (3000mm)	●	●	●	●	●
E21J	Lead wire (1000mm) With surge suppressor and indicator light	●	●	●	●	●
E22J	Lead wire (2000mm) With surge suppressor and indicator light	●	●	●	●	●
E23J	Lead wire (3000mm) With surge suppressor and indicator light	●	●	●	●	●

Note 5: The grommet lead wire specifications are available only for 24, 12 VDC.

Explanation of manifold components and parts list



Note 1: The direct mounting M4GB1 cannot be changed to a DIN rail mounting midway.

Main parts list

No.	Component name		Model no.	Descriptions	Remarks
1	Discrete valve for base installation		4GB** 9 - 00 - [Electric connection] [Option] [Voltage] [Solenoid position] [Flow rate]	Discrete valve Gasket Two set screws Two PR check valves	Refer to Page 174 for details.
2	Masking plate	3G1/4G1	4G1-MP	Masking plate Gasket Two set screws	* 3G2/4G2 and 3G3/4G3 have two PR check valves.
		3G2/4G2	4G2-MP		
		3G3/4G3	4G3-MP		
3	Manifold base assembly		M4GB* - [Port size] - [Option] D - [Station number] [Flow rate] [Mount type]	Manifold base	
4	DIN rail kit				Refer to Page 77 for details.

Repair parts and related parts list

No.	Part name	Model no.
-	Coil assembly	4G [Power supply connection] - * - COIL - [Voltage] Blank: Standard A: Ozone proof Blank: Grommet lead wire
-	E-connector socket assembly	4G-SOCKET-ASSY- [Electric connection] - [Voltage]
-	EJ-connector socket assembly	4G-SOCKET-ASSY- [Electric connection]
-	Silencer	M5: SLM-M5
		Rc1/8: SLW-6A, SLW-6S
		Rc1/4: SLW-8A, SLW-8S
		Rc3/8: SLW-10A, SLW-10L

No.	Part name			Model no.
-	Cartridge type push-in joint and related parts	4G1	ø4 straight	4G1-JOINT-C4
			ø6 straight	4G1-JOINT-C6
			ø4 L type	4G1-JOINT-CL4/CLL4
			ø6 L type	4G1-JOINT-CL6/CLL6
			Plug cartridge	4G1-JOINT-CPG
		4G2	ø4 straight	4G2-JOINT-C4
			ø6 straight	4G2-JOINT-C6
			ø8 straight	4G2-JOINT-C8
			ø6 L type	4G2-JOINT-CL6/CLL6
			ø8 L type	4G2-JOINT-CL8/CLL8
			Plug cartridge	4G2-JOINT-CPG
		4G3	ø6 straight	4G3-JOINT-C6
			ø8 straight	4G3-JOINT-C8
			ø10 straight	4G3-JOINT-C10
			ø8 L type	4G3-JOINT-CL8/CLL8
			ø10 L type	4G3-JOINT-CL10/CLL10
			Plug cartridge	4G3-JOINT-CPG

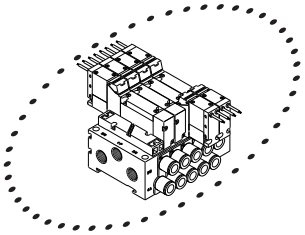
MEMO

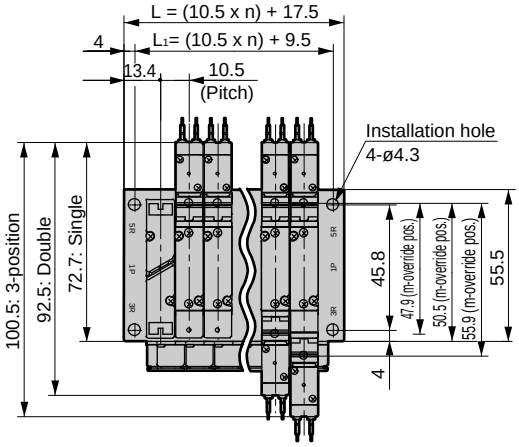
Dimensions

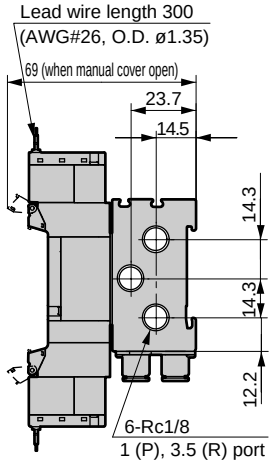
M4GB1

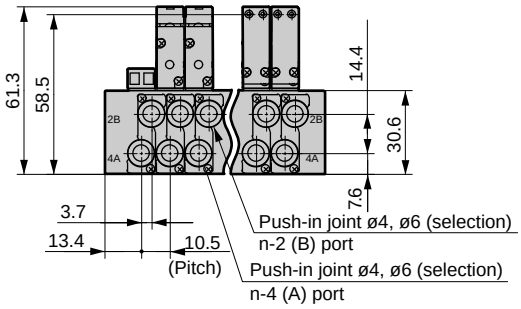
● Direct mount installation
Grommet lead wire (blank)

Note 1: Dedicated to direct mounting.
This cannot be changed to DIN rail specifications.
Note 2: The type with two 3 port valves has the same dimensions as the double type.

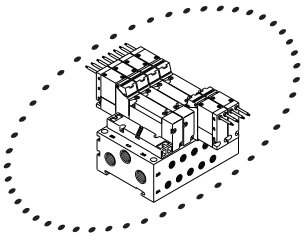


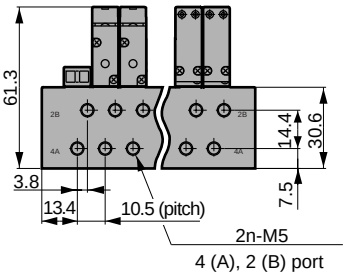




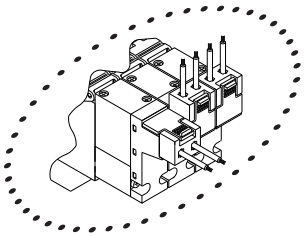


● M5 female thread type (M5)

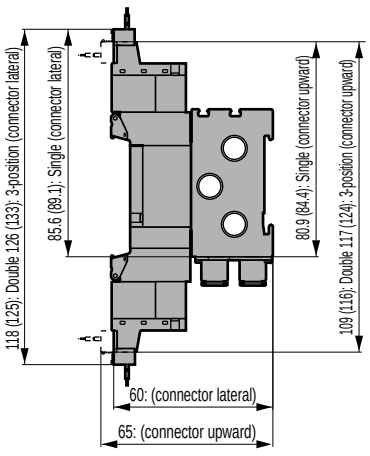




● E-connector type (E)



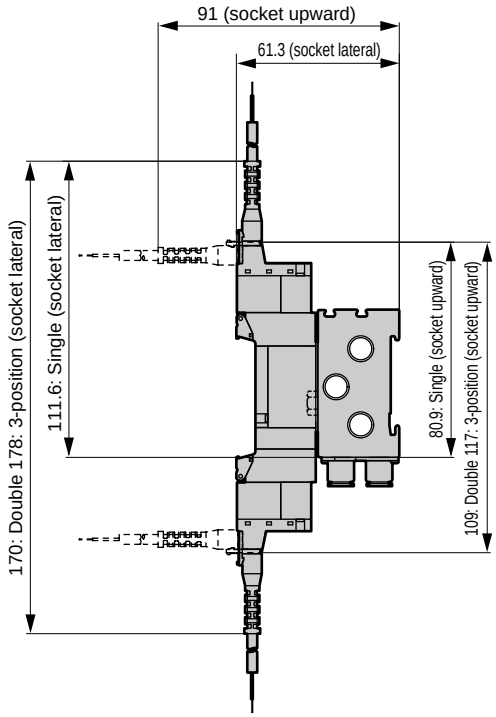
Note: Values in parentheses are for 100 VAC.



Sta. no.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L	38.5	49	59.5	70	80.5	91	101.5	112	122.5	133	143.5	154	164.5	175	185.5	196	206.5	217	227.5
L1	30.5	41	51.5	62	72.5	83	93.5	104	114.5	125	135.5	146	156.5	167	177.5	188	198.5	209	219.5

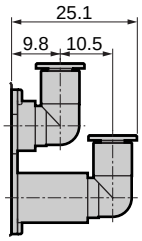
Dimensions

● EJ-connector type (E**J)

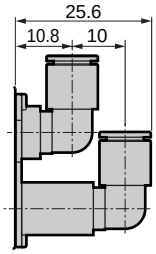


● Push-in joint L type (upward) type

● ø4 (CL4)



● ø6 (CL6)

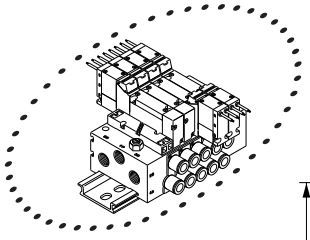


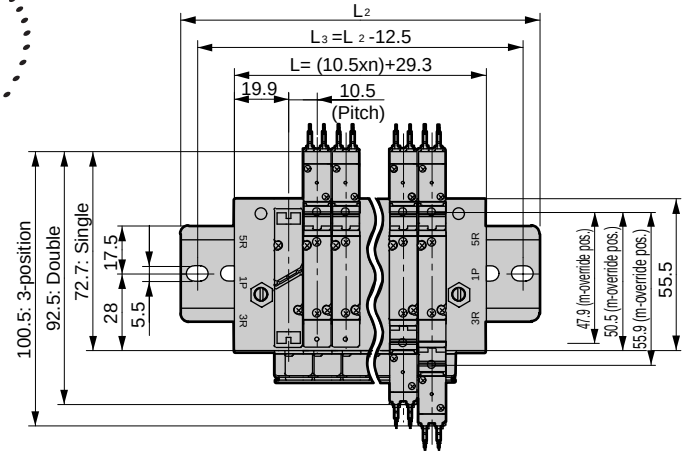
Dimensions CAD

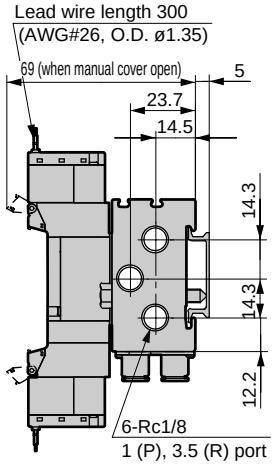
M4GB1

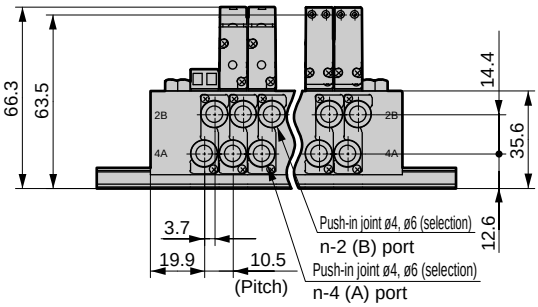
Note 1: Can be changed to direct mounting.
Note 2: The type with two 3 port valves has the same dimensions as the double type.

● DIN rail installation (D)
Grommet lead wire (blank)

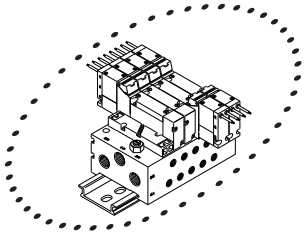


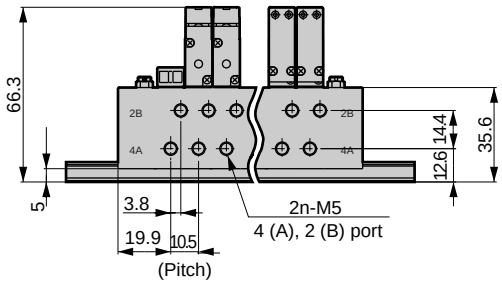




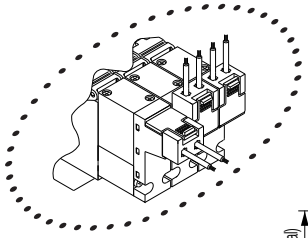


● DIN rail installation (D)
M5 female thread type (M5)

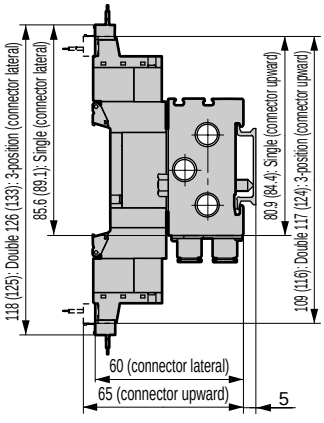




● DIN rail installation (D)
E-connector type (E)



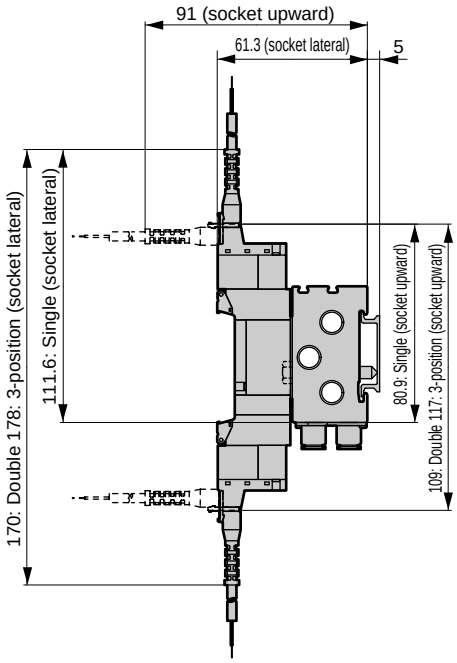
Note: Values in parentheses are for 100 VAC.



Sta. no.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L	50.3	60.8	71.3	81.8	92.3	102.8	113.3	123.8	134.3	144.8	155.3	165.8	176.3	186.8	197.3
L_2	100.0	112.5	112.5	125.0	137.5	150.0	162.5	175.0	175.0	187.5	200.0	212.5	225.0	237.5	237.5
L_3	87.5	100.0	100.0	112.5	125.0	137.5	150.0	162.5	162.5	175.0	187.5	200.0	212.5	225.0	225.0

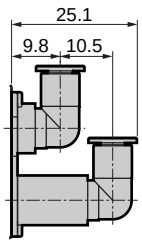
Dimensions

● EJ-connector type (E**J)

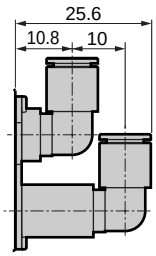


● Push-in joint L type (upward) type

● ø4 (CL4)



● ø6 (CL6)

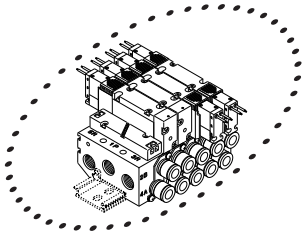


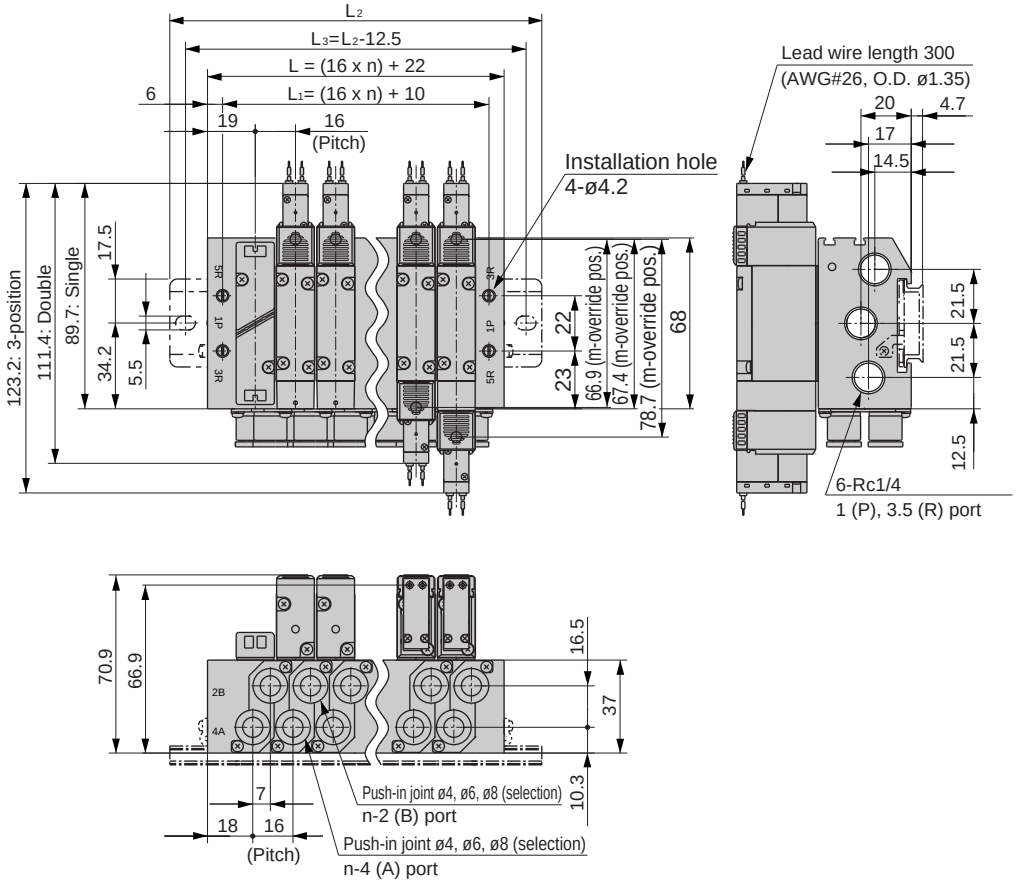
Dimensions CAD

M4GB2

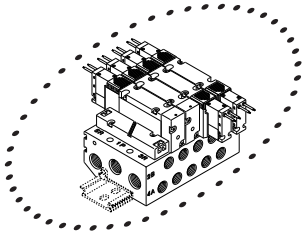
Note: The type with two 3 port valves has the same dimensions as the double type.

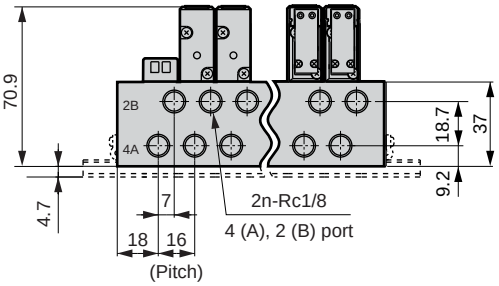
● Grommet lead wire (blank)





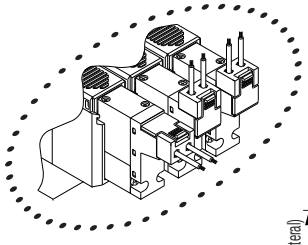
● Rc1/8 female thread type (06)

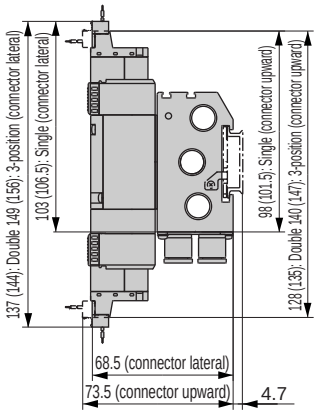




● E-connector type (E)

Note: Values in parentheses are for 100 VAC.

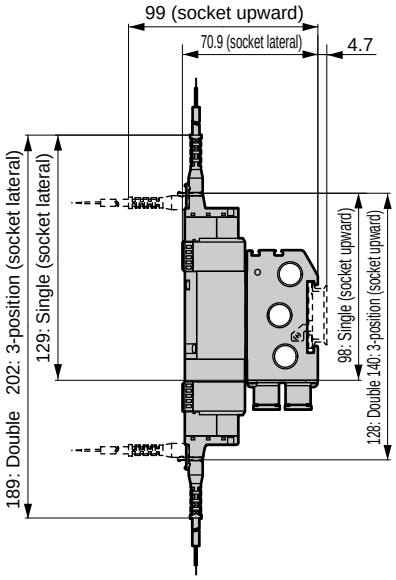




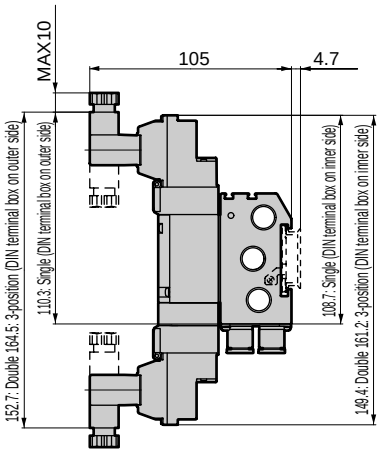
Sta. no.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L	54	70	86	102	118	134	150	166	182	198	214	230	246	262	278	294	310	326	342
L_1	42	58	74	90	106	122	138	154	170	186	202	218	234	250	266	282	298	314	330
L_2	100.0	112.5	137.5	150.0	162.5	175.0	200.0	212.5	225.0	250.0	262.5	275.0	287.5	312.5	325.0				
L_3	87.5	100.0	125.0	137.5	150.0	162.5	187.5	200.0	212.5	237.5	250.0	262.5	275.0	300.0	312.5				

Dimensions

● EJ-connector type (E**J)



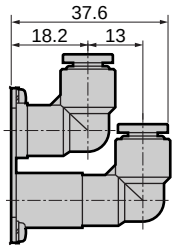
● DIN terminal box type (B)



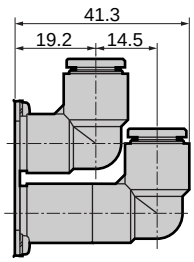
Note: The DIN terminal box assembly is shipped facing inward.

● Push-in joint L type (upward) type

● ø6 (CL6)



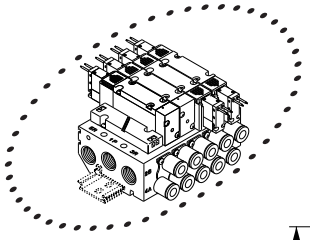
● ø8 (CL8)

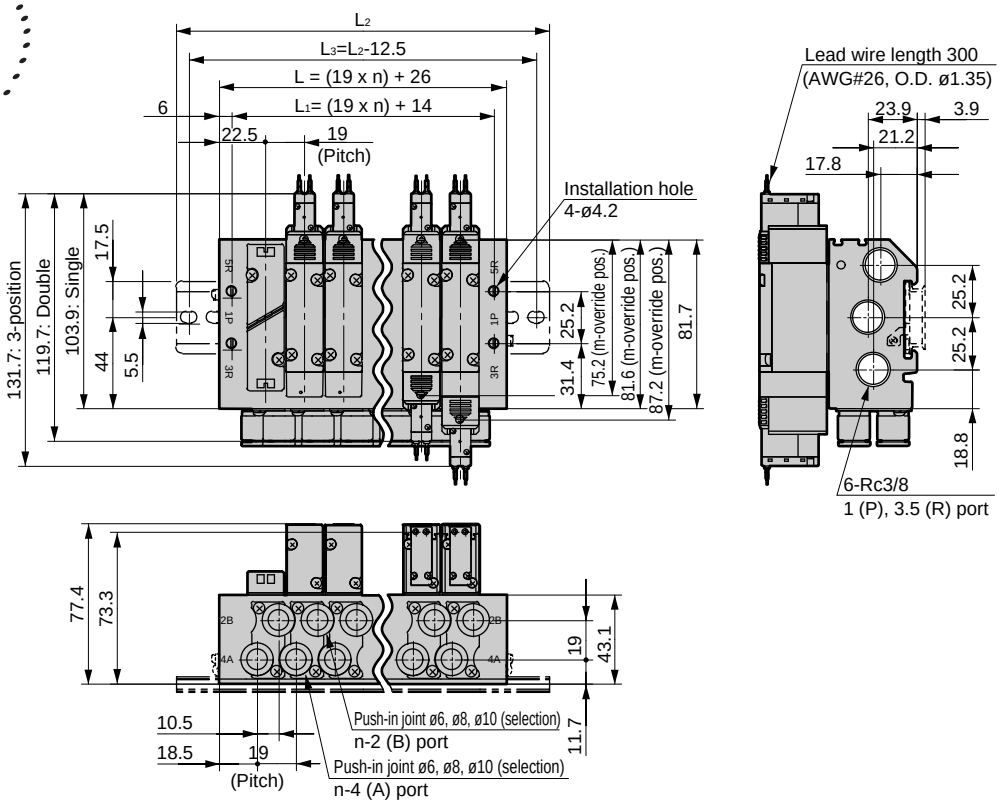


Dimensions CAD

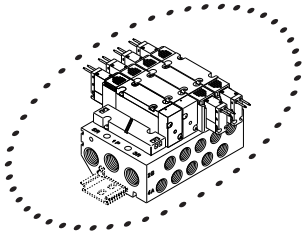
M4GB3

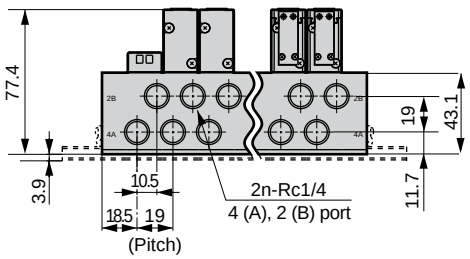
● Grommet lead wire (blank)



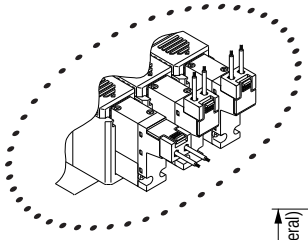


● RC1/4 female thread type (08)

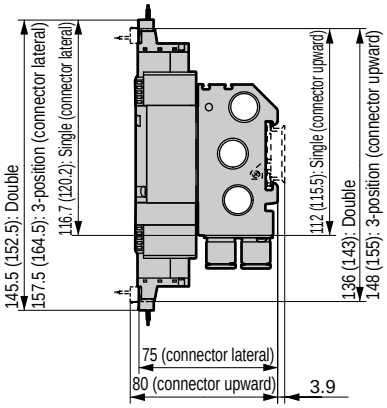




● E-connector type (E)



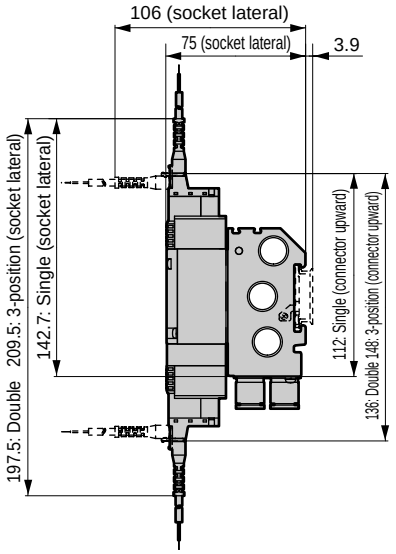
Note: Values in parentheses are for 100 VAC.



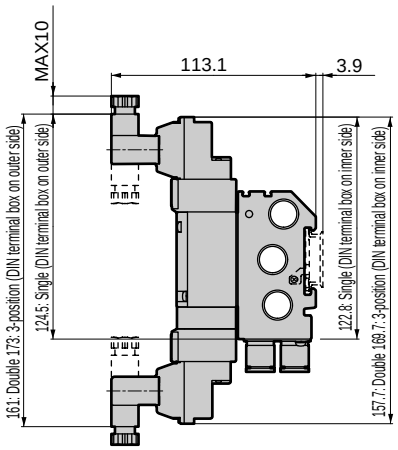
Sta. no.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L	64	83	102	121	140	159	178	197	216	235	254	273	292	311	330	349	368	387	406
L_1	52	71	90	109	128	147	166	185	204	223	242	261	280	299	318	337	356	375	394
L_2	112.5	125.0	150.0	162.5	187.5	200.0	225.0	237.5	262.5	275.0	300.0	325.0	337.5	362.5	375.0				
L_3	100.0	112.5	137.5	150.0	175.0	187.5	212.5	225.0	250.0	262.5	287.5	312.5	325.0	350.0	362.5				

Dimensions

● EJ-connector type (E**J)



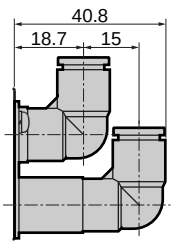
● DIN terminal box type (B)



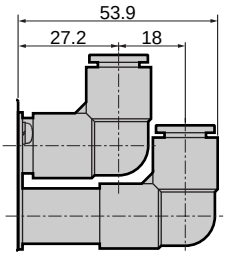
Note: The DIN terminal box assembly is shipped facing inward.

● Push-in joint L type (upward) type

● ø8 (CL8)



● ø10 (CL10)

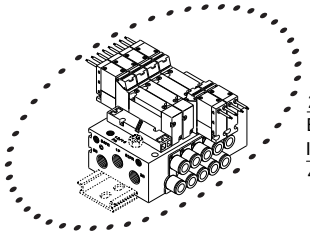


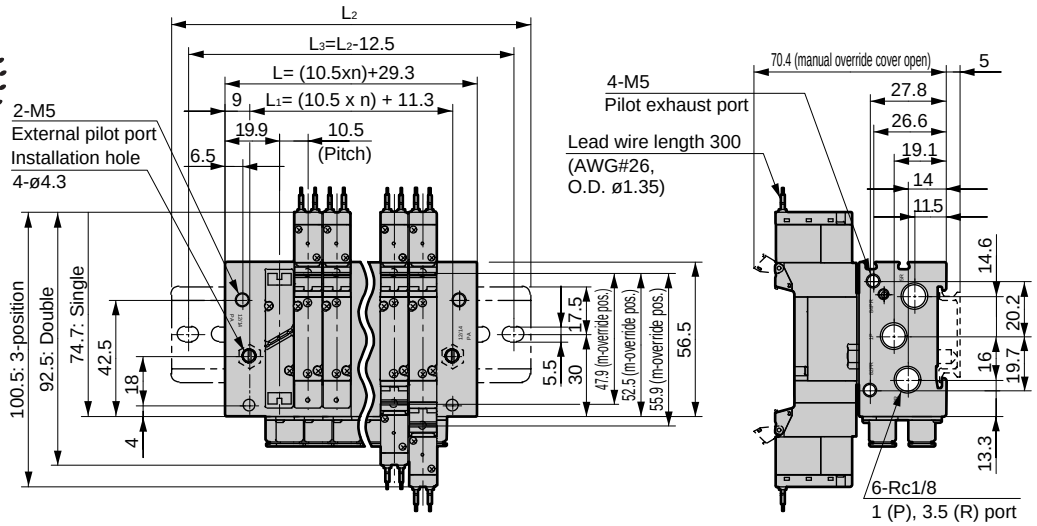
Dimensions CAD

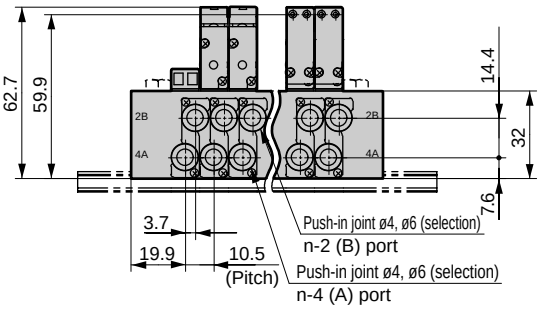
M4GB1

● External pilot (K)

Grommet lead wire (blank)

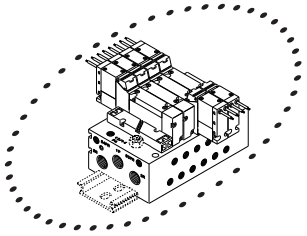


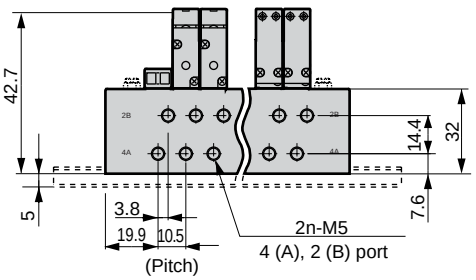




● External pilot (K)

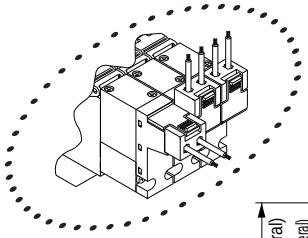
M5 female thread type (M5)



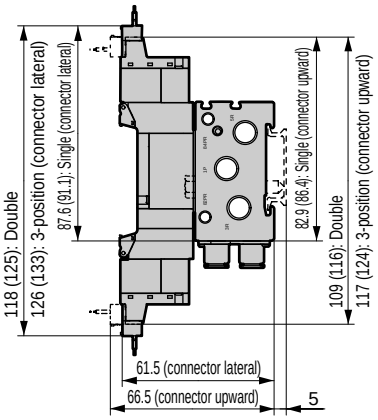


● External pilot (K)

E-connector type (E)



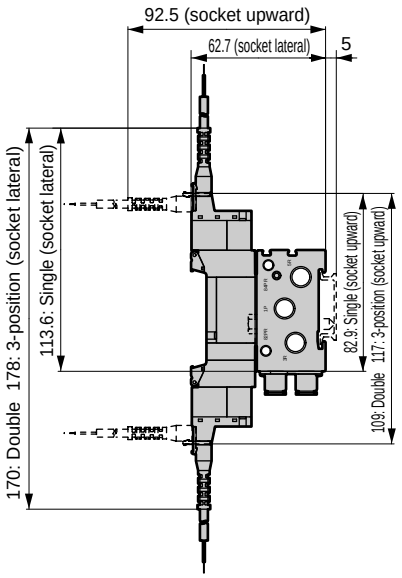
Note: Values in parentheses are for 100 VAC.



Sta. no.	2	3	4	5	6	7	8	9	10	11	12
L	50.3	60.8	71.3	81.8	92.3	102.8	113.3	123.8	134.3	144.8	155.3
L1	32.3	42.8	53.3	63.8	74.3	84.8	95.3	105.8	116.3	126.8	137.3
L2	100.0	112.5	112.5	125.0	137.5	150.0	162.5	175.0	175.0	187.5	200.0
L3	87.5	100.0	100.0	112.5	125.0	137.5	150.0	162.5	162.5	175.0	187.5

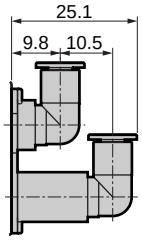
Dimensions

● External pilot (K)
EJ-connector type (E**J)

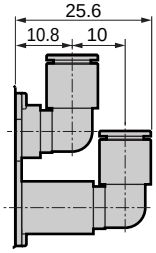


● Push-in joint L type (upward) type

● ø4 (CL4)



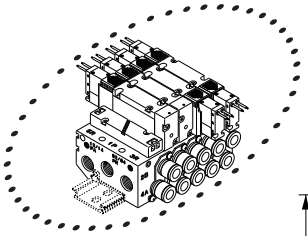
● ø6 (CL6)

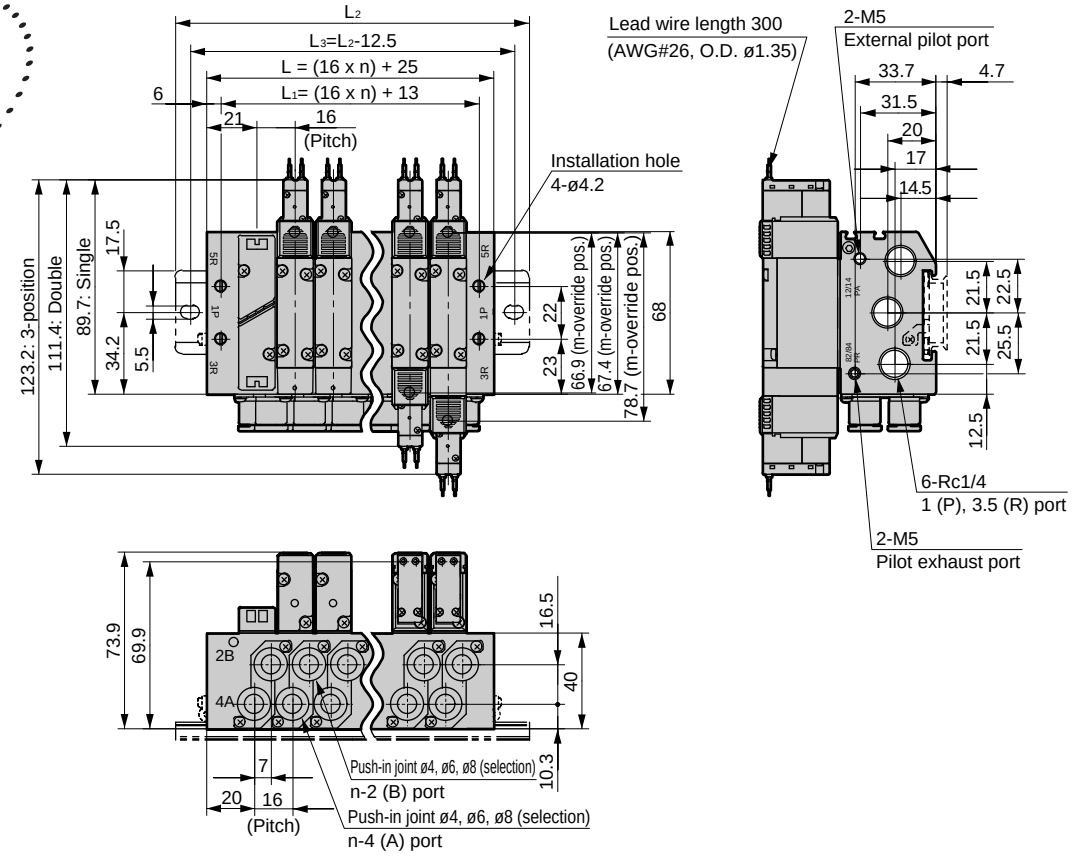


Dimensions CAD

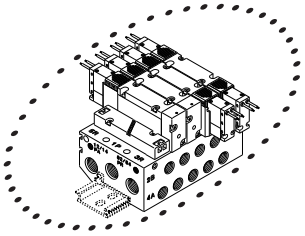
M4GB2

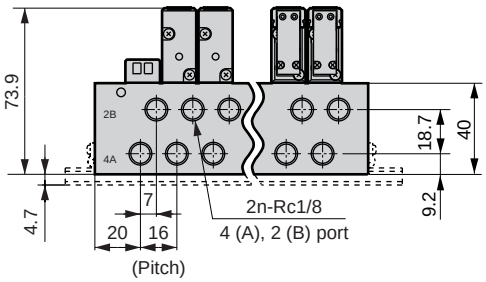
● External pilot (K)
Grommet lead wire (blank)



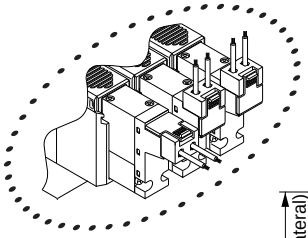


● External pilot (K)
Rc1/8 female thread type (06)

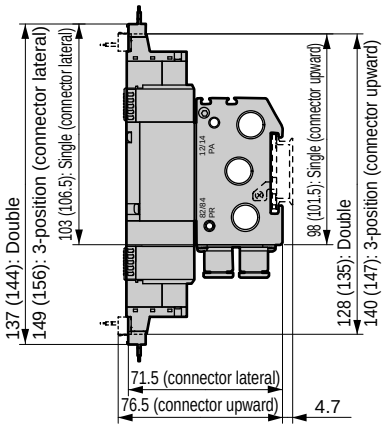




● External pilot (K)
E-connector type (E)



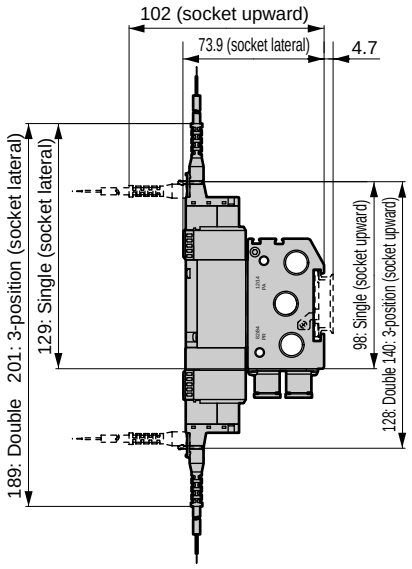
Note: Values in parentheses are for 100 VAC.



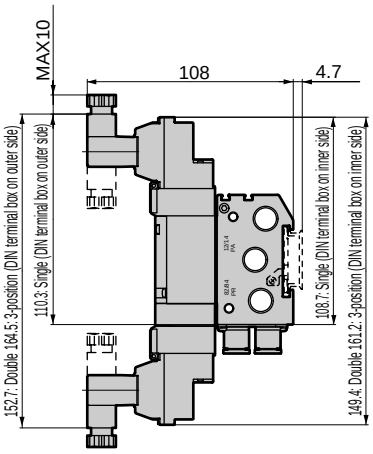
Sta. no.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L	57	73	89	105	121	137	153	169	185	201	217	233	249	265	281	297	313	329	345
L_1	45	61	77	93	109	125	141	157	173	189	205	221	237	253	269	285	301	317	333
L_2	100.0	125.0	137.5	150.0	162.5	187.5	200.0	212.5	225.0	250.0	262.5	275.0	300.0	312.5	325.0				
L_3	87.5	112.5	125.0	137.5	150.0	175.0	187.5	200.0	212.5	237.5	250.0	262.5	287.5	300.0	312.5				

Dimensions

● External pilot operated (K)
EJ-connector type (E**J)



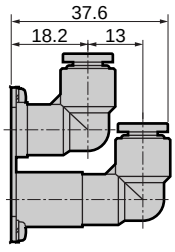
● External pilot (K)
DIN terminal box type (B)



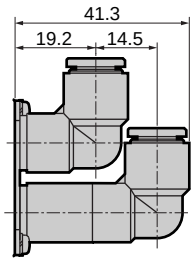
Note: The DIN terminal box assembly is shipped facing inward.

● Push-in joint L type (upward) type

● ø6 (CL6)



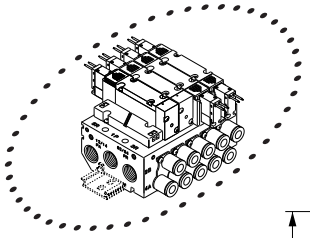
● ø8 (CL8)

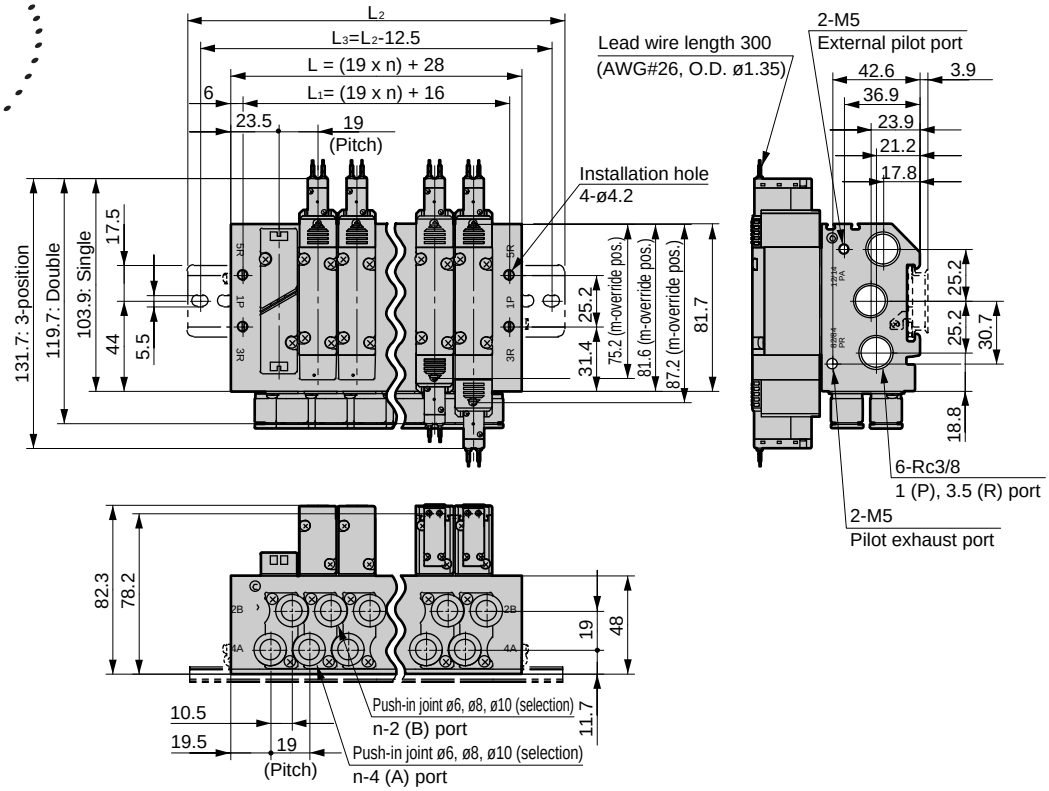


Dimensions

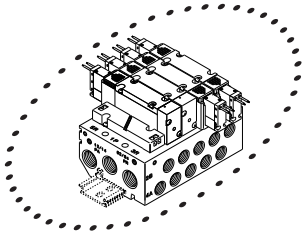
M4GB3

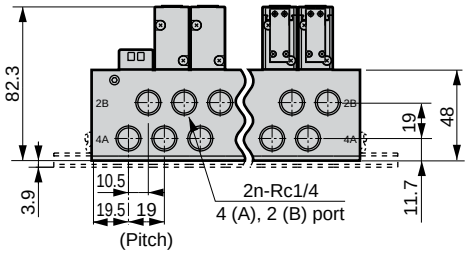
● External pilot (K)
Grommet lead wire (blank)



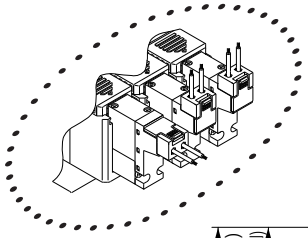


● External pilot (K)
Rc1/4 female thread type (08)

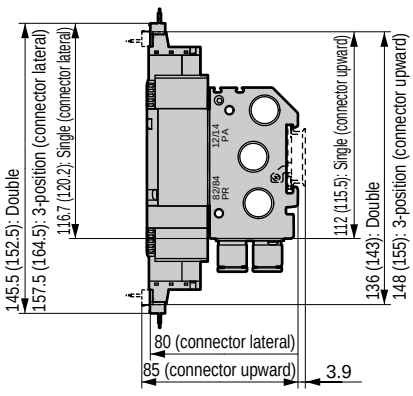




● DIN rail installation (D), External pilot (K)
E-connector type (E)



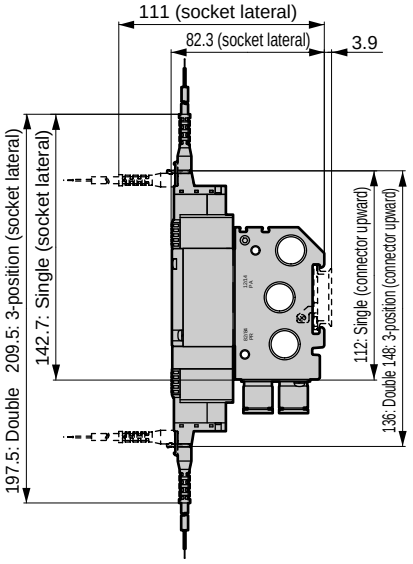
Note: Values in parentheses are for 100 VAC.



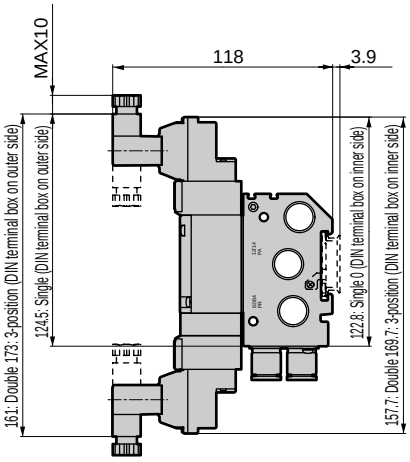
Sta. no.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L	66	85	104	123	142	161	180	199	218	237	256	275	294	313	332	351	370	389	408
L_1	54	73	92	111	130	149	168	187	206	225	244	263	282	301	320	339	358	377	396
L_2	112.5	125.0	150.0	175.0	187.5	212.5	225.0	250.0	262.5	287.5	300.0	325.0	337.5	362.5	375.0				
L_3	100.0	112.5	137.5	162.5	175.0	200.0	212.5	237.5	250.0	275.0	287.5	312.5	325.0	350.0	362.5				

Dimensions

● External pilot (K)
EJ-connector type (E**J)



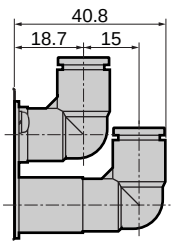
● DIN terminal box type (B)



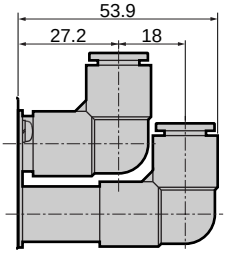
Note: The DIN terminal box assembly is shipped facing inward.

● Push-in joint L type (upward) type

● ø8 (CL8)



● ø10 (CL10)



Reduced wiring manifold (common gland, D sub-connector, flat cable connector)
Body porting
Direct mount type / DIN rail mount type

M3GA1/2/3-T* (D) Series
M4GA1/2/3-T* (D) Series

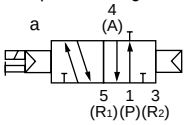
* Refer to Page 204 for serial transmission.

● Applicable cylinder bore size: ø20 to ø100

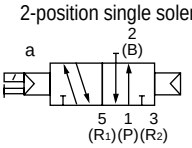
RoHS CAD

JIS symbol

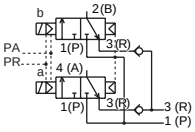
● 3 port valve
2-position single solenoid N.C. type



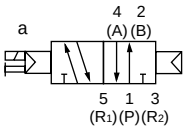
2-position single solenoid N.O. type



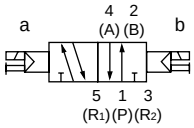
● Two 3 port valve integrated type
(A side valve: N.C. type, B side valve: N.C. type)



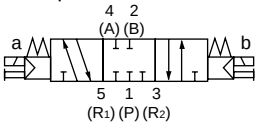
● 5 port valve
2-position single solenoid



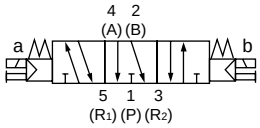
2-position double solenoid



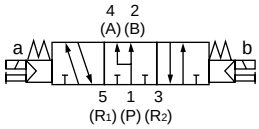
3-position
all ports closed



3-position A/B/R connection



3-position P/A/B connection



Manifold common specifications

Descriptions		
Manifold type		Reduced wiring integrated base
Installation method		Direct mount / DIN rail mount
Air supply and exhaust method		Common supply / common exhaust (Check valve integrated)
Pilot exhaust method	Internal pilot	Main valve / pilot operated valve common exhaust (Pilot exhaust check valve integrated)
	External pilot	Main valve / pilot operated valve individual exhaust
Piping direction		Valve top direction
Type of valve and operation method		Pilot operated soft spool valve
Working fluid		Compressed air
Max. working pressure	MPa	0.7
Min. working pressure	MPa	0.2 (2-position, 3-position)
Withstanding pressure	MPa	1.05
Ambient temperature	℃	-5 to 55 (no freezing)
Fluid temperature	℃	5 to 55
Manual override		Non-locking/locking common type
Lubrication	Note 1	Not required
Protective structure	Note 2	Dust proof
Vibration/impact	m/s²	50 or less / 300 or less
Working environment		Containing corrosive gas is impermissible.

Note 1 Use the turbine oil Class 1 ISO VG32 if lubricated. Excessive or intermittent lubrication results in instable operation.
Note 2 Check that water drops or oil, etc., do not come into contact.
Note 3 The working pressure range is 0 to 0.7 MPa when the external pilot (option symbol: K) is selected. Set the external pilot pressure between 0.2 and 0.7 MPa.

Electric specifications

Descriptions		
Rated voltage	DC	12 , 24
Rated voltage fluctuation range		±10%
Holding current	24VDC	0.025
A	12VDC	0.050
Power consumption	24VDC	0.6
W	12VDC	0.6
Heat proof class		B
Temperature rise ˚C		50
Surge suppressor		Provided as standard
Indicator		With indicator light

Individual specifications

Descriptions		M3GA1/M4GA1		M3GA2/M4GA2		M3GA3/M4GA3	
		T*		T*		T*	
		Direct mount	DIN rail mount	Direct mount	DIN rail mount	Direct mount	DIN rail mount
Max. station number	Standard (Internal pilot)	20 stations	16 stations	20 stations	16 stations	16 stations	
	External pilot	12 stations					
Port size	A/B port	Push-in joint ø4, ø6 M5		Push-in joint ø4, ø6, ø8 Rc1/8		Push-in joint ø6, ø8, ø10 Rc1/4	
	P/R1/R2 port	Rc1/8		Rc1/4		Rc3/8	
Manifold base weight calculation formula (n: station number) g	Standard	29n + 215	31n + 228	54n + 264	56n + 297	84n + 320	86n + 354
	External pilot	44n + 334	46n + 347	96n + 433	98n + 468	149n + 554	151n + 583

The manifold base weight is the value for screw connections specifications with the DIN rail and wiring block.
The maximum number of manifold stations is limited by the maximum solenoid points for each of the following wiring specifications.

Flow characteristics

Model no.	Solenoid position		P → A/B		A/B → R1/R2	
			C (dm³/ (s·bar))	b	C (dm³/ (s·bar))	b
M3GA1 M4GA1	Two 3 port valve integrated type		0.86	0.31	0.66	0.22
	2-position		0.99	0.20	0.70	0.12
	3-position	All ports closed	0.94	0.23	0.99	0.09
		ABR connection	0.93	0.18	0.70	0.02
		PAB connection	1.1	0.28	1.0	0.12
M3GA2 M4GA2	Two 3 port valve integrated type		1.7	0.40	1.7	0.32
	2-position		2.3	0.36	1.7	0.33
	3-position	All ports closed	2.1	0.35	2.4	0.37
		ABR connection	2.2	0.37	1.8	0.29
		PAB connection	2.4	0.34	2.5	0.33
M3GA3 M4GA3	2-position		3.2	0.37	2.5	0.28
	3-position	All ports closed	2.9	0.35	3.2	0.35
		ABR connection	3.0	0.34	2.6	0.27
		PAB connection	3.3	0.30	3.3	0.32

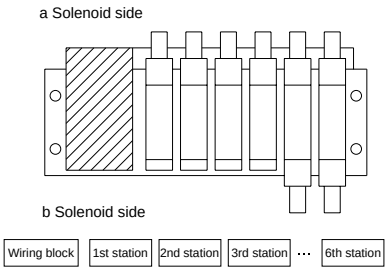
Note 1: Effective sectional area S and sonic conductance C are converted as S ≒ 5.0 × C.
Note 2: Values for the built-in check valve apply for the 2-position, two 3 port valve integrated type and A/B/R connection.

Wiring specifications

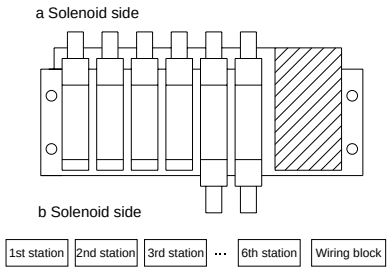
Descriptions	T10* Common gland type	T11* Common gland type	T30* D sub-connector	T50* Flat cable 20 pin type	T51* Flat cable 20 pin type	T52* Flat cable 10 pin type	T53* Flat cable 26 pin type
Connector and gland specifications	M3 thread type 16 terminals	Push-in fitting type 26 terminals	MIL standards D sub-connector 25 terminals	MIL-C-83503 standards Pressure welding socket 20 pin	MIL-C-83503 standards Pressure welding socket 20 pin	MIL-C-83503 standards Pressure welding socket 10 pin	MIL-C-83503 standards Pressure welding socket 26 pin
Maximum solenoid number	14 points	24 points	24 points	16 points	18 points	8 points	24 points
Manifold internal wiring	Refer to Pages 367 to 374 for details						

Wiring block position
Blank: Left
R : Right

Left: T*



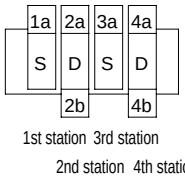
Right: T*R



Array
Blank: Standard sequential
W : Double wiring

(Example) T50*

Manifold specifications



Standard wiring (sequential): Blank

Connector pin No.	1	2	3	4	5	6
Valve solenoid No.	1a	2a	2b	3a	4a	4b

Double wiring: W

Connector pin No.	1	2	3	4	5	6	7	8
Valve solenoid No.	1a	Void	2a	2b	3a	Void	4a	4b

Ozone specifications · Coolant proof specifications

Can be selected with "F" option "A" in How to Order on Page 194.

Clean room specifications (Catalog No. CB-033SA)

● Dust generation preventing structure for use in cleanrooms

** -VOLTAGE- P7*

M$^{3}_{4}$GA1/2/3-T* (D) Series

Reduced wiring manifold; body porting

How to order

Manifold model no.

M 4GA1 1 0 - C6 - T30 W H D - ○ - ○

3 port manifold model no.

M 3GA1 1 0 - C6 - T30 W H D - ○ - ○

Discrete valve for base installation

4GA1 1 9 - C6 - A2N H ——— ○

3 port discrete valve for base installation

3GA1 1 9 - C6 - A2N H ——— ○

A2N indicates an A (downward) connector, with a lamp and surge suppressor, and no lead.

Ⓑ Solenoid position

Ⓐ Model no.

Ⓒ Port size

Ⓓ Reduced wiring
Zener diode is used for surge suppressor.

● Refer to Page 370 for the models of the cable with a D-sub connector.
● Refer to Page 366 for models of the cable for a flat cable connector.

Ⓔ Terminal/connector pin array

Ⓕ Option

Ⓖ Mount type

Ⓗ Station number

Ⓘ Voltage

Note on model no. selection

Note 1: Select M4GA*80 when mixing with the 4, 5 port valves.
Select M3GA*80 when mixing with the masking plate.

Note 2: Combination with the external pilot (K) is not available.
The dimension drawings are the same dimensions as each 2-position double solenoid.

Note 3: Blank ... Wired based on the type of valve used.
W ... All wired for the double solenoid regardless of the type of valve used.

Note 4: The check valve specifications (H) are not available for the 3-position all port closed or PAB connection. Refer to Page 382 for details on the check valve.

Note 5: Consult CKD for details on using vacuum with the external pilot (K).

Note 6: Specify the spacer mounting location and quantity in manifold specifications. Refer to Pages 234 to 236 for details

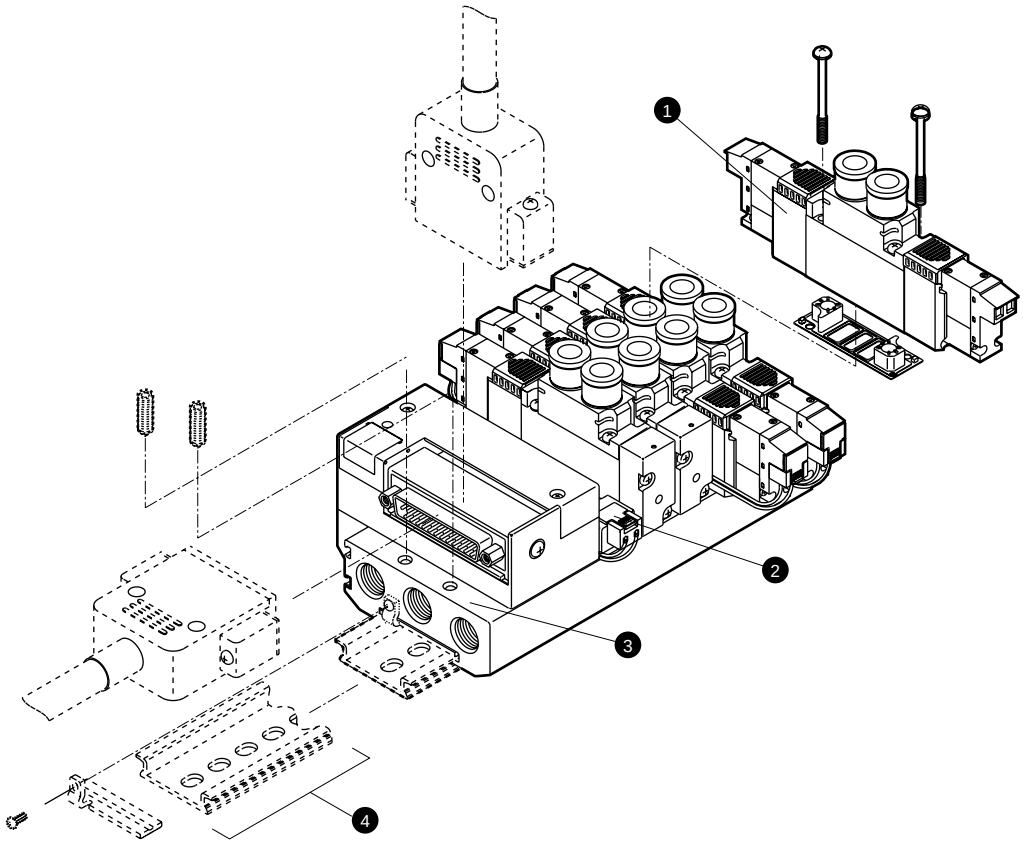
Note 7: The push-in joint cannot be mixed with the discrete valve's 4(A) or 2(B) port.

* Complete manifold specification sheet (Pages 242 to 253).

Symbol	Descriptions	Ⓐ Model no. 3GA1	3GA2	3GA3	4GA1	4GA2	4GA3
Ⓑ Solenoid position							
1	2-position single solenoid				●	●	●
2	2-position double solenoid				●	●	●
3	3-position all ports closed				●	●	●
4	3-position A/B/R connection				●	●	●
5	3-position P/A/B connection				●	●	●
1	2-position single solenoid normally closed	●	●	●			
11	2-position single solenoid normally open	●	●	●			
66	Two 3 port valve integrated type A side valve: normally closed B side valve: normally closed Note 1, 2	●	●				
8	Mix manifold	●	●	●	●	●	●
Ⓒ Port size							
Port	A/B port	P/R1/R2 port (2)= Rc1/8 (3)= Rc1/4 (4)= Rc3/8					
C4	ø4 push-in joint	(2)	(3)		(2)	(3)	
C6	ø6 push-in joint	(2)	(3)	(4)	(2)	(3)	(4)
C8	ø8 push-in joint		(3)	(4)		(3)	(4)
C10	ø10 push-in joint			(4)			(4)
CX	Push-in joint mix Note 7	(2)	(3)	(4)	(2)	(3)	(4)
M5	M5	(2)			(2)		
06	Rc1/8		(3)			(3)	
08	Rc1/4			(4)			(4)
Ⓓ Reduced wiring (light, surge suppressor provided as standard)							
T10	Common gland (M3 screw) Left	●	●	●	●	●	●
T10R	Common gland (M3 screw) Right	●	●	●	●	●	●
T11	Common gland (push-in fitting) Left	●	●	●	●	●	●
T11R	Common gland (push-in fitting) Right	●	●	●	●	●	●
T30	D sub-connector Left	●	●	●	●	●	●
T30R	D sub-connector Right	●	●	●	●	●	●
T50	20 pin flat cable connector (with power supply terminal) Left	●	●	●	●	●	●
T50R	20 pin flat cable connector (with power supply terminal) Right	●	●	●	●	●	●
T51	20 pin flat cable connector (without power supply terminal) Left	●	●	●	●	●	●
T51R	20 pin flat cable connector (without power supply terminal) Right	●	●	●	●	●	●
T52	10 pin flat cable connector (without power supply terminal) Left	●	●	●	●	●	●
T52R	10 pin flat cable connector (without power supply terminal) Right	●	●	●	●	●	●
T53	26 pin flat cable connector (without power supply terminal) Left	●	●	●	●	●	●
T53R	26 pin flat cable connector (without power supply terminal) Right	●	●	●	●	●	●
Ⓔ Terminal/connector pin array							
Blank	Standard wiring Note 3	●	●	●	●	●	●
W	Double wiring Note 3	●	●	●	●	●	●
Ⓕ Option							
Blank	None	●	●	●	●	●	●
H	With check valve Note 4	●	●	●	●	●	●
K	External pilot Note 5	●	●	●	●	●	●
A	Ozone/coolant proof	●	●	●	●	●	●
F	A/B port filter integrated (P port: provided as standard)	●	●	●	●	●	●
Z1	Air supply spacer Note 6	●	●	●	●	●	●
Z2	In stop valve spacer Note 6		●	●		●	●
Ⓖ Mount type							
Blank	Direct mount type	●	●	●	●	●	●
D	DIN rail mount type	●	●	●	●	●	●
Ⓗ Station number							
2	2 stations	●	●	●	●	●	●
to	to						
20	Refer to Page 192 for maximum station number.						
Ⓘ Voltage							
3	24 VDC	●	●	●	●	●	●
4	12 VDC	●	●	●	●	●	●

is not available.

Explanation of manifold components and parts list



Main parts list

No.	Component name		Model no.	Descriptions	Remarks
1	Discrete valve for base installation		4GA**9- [Port size] -A2N [Option] - [Voltage] [Solenoid position] [Flow rate]	Discrete valve Gasket Two set screws Two PR check valves	Refer to Page 194 for details.
2	Masking plate	3G1/4G1	4G1-MP	Masking plate Gasket Two set screws	* 3G2/4G2 and 3G3/4G3 have two PR check valves.
		3G2/4G2	4G2-MP		
		3G3/4G3	4G3-MP		
3	Manifold base assembly		M4GA*-00- [Reduced wiring connection] [Option] - [Station number] [Flow rate]	Manifold base Wiring block	
4	DIN rail kit				Refer to Page 77 for details.

Repair parts and related parts list

No.	Part name	Model no.
-	Coil assembly	4G - A2N - * - COIL - [Voltage] Blank: Standard A: Ozone proof
-	A-connector socket assembly Refer to Page 449 for details	Flow rate 4G*-SOCKET-ASSY-A ** - [Manifold No.] Blank: Left, R: Right a: aSOL, b: bSOL n: Designate the location of the connected valve
-	Silencer	M5 : SLM-M5
		Rc1/8: SLW-6A, SLW-6S
		Rc1/4: SLW-8A, SLW-8S
		Rc3/8: SLW-10A, SLW-10L

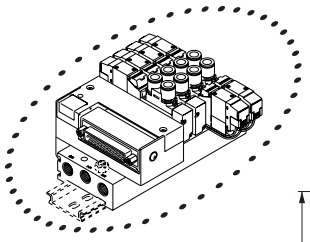
No.	Part name			Model no.
-	Cartridge type push-in joint and related parts	4G1	ø4 straight	4G1-JOINT-C4
			ø6 straight	4G1-JOINT-C4
			Plug cartridge	4G1-JOINT-CPG
		4G2	ø4 straight	4G2-JOINT-C4
			ø6 straight	4G2-JOINT-C6
			ø8 straight	4G2-JOINT-C8
			Plug cartridge	4G2-JOINT-CPG
		4G3	ø6 straight	4G3-JOINT-C6
			ø8 straight	4G3-JOINT-C8
			ø10 straight	4G3-JOINT-C10
			Plug cartridge	4G3-JOINT-CPG

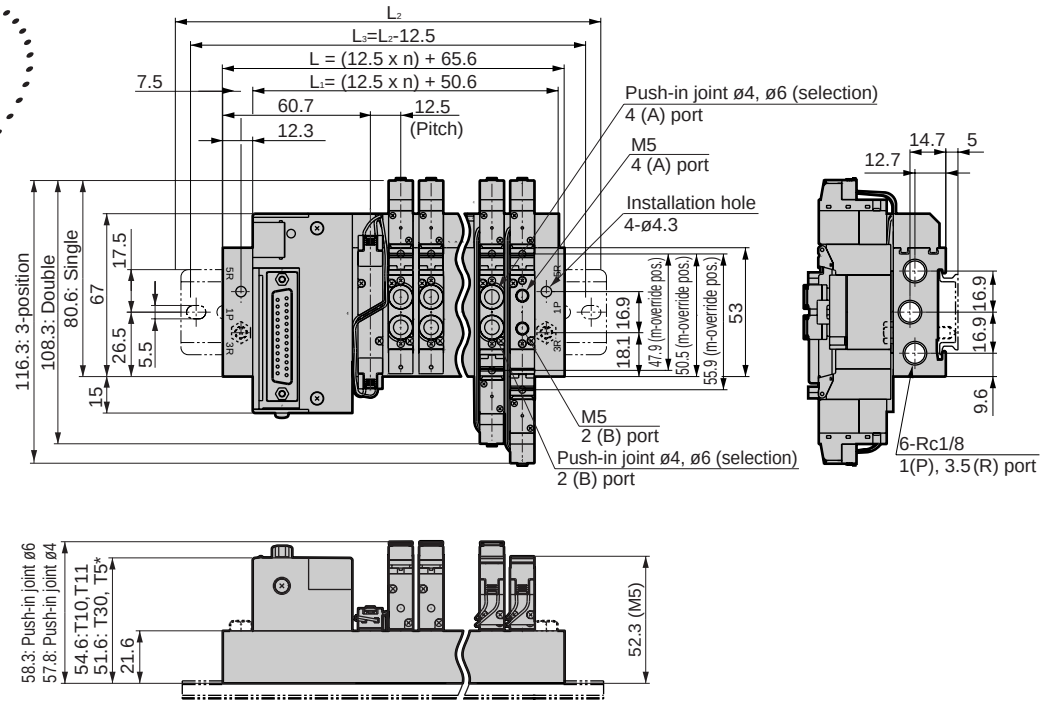
Dimensions CAD

M4GA1

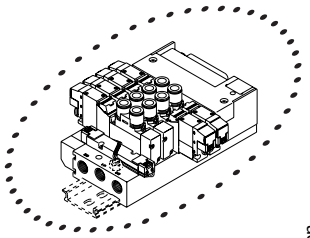
* The drawing shows the T30. Refer to Pages 202 to 203 for detailed dimensions of the wiring block.
* M3GA1 has the same dimensions as the single type. The A or B port is a blank plug. The type with two 3 port valves has the same dimensions as the double type.

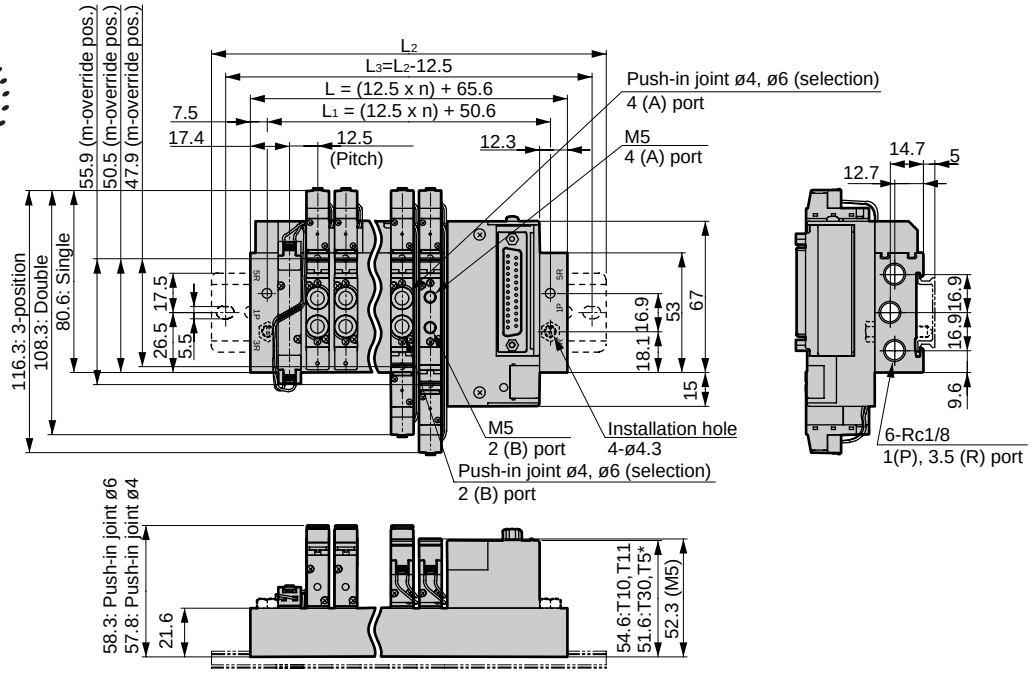
● Reduced wiring left type (T10, T11, T30, T50, T51, T52, T53)





● Reduced wiring right type (T10R, T11R, T30R, T50R, T51R, T52R, T53R)





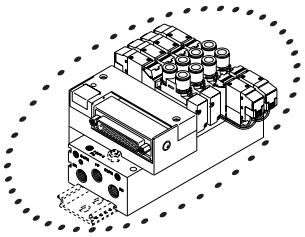
Sta. no.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L	90.6	103.1	115.6	128.1	140.6	153.1	165.6	178.1	190.6	203.1	215.6	228.1	240.6	253.1	265.6	278.1	290.6	303.1	315.6
L_1	75.6	88.1	100.6	113.1	125.6	138.1	150.6	163.1	175.6	188.1	200.6	213.1	225.6	238.1	250.6	263.1	275.6	288.1	300.6
L_2	137.5	150.0	162.5	175.0	187.5	200.0	212.5	225.0	237.5	250.0	262.5	275.0	287.5	300.0	312.5				
L_3	125.0	137.5	150.0	162.5	175.0	187.5	200.0	212.5	225.0	237.5	250.0	262.5	275.0	287.5	300.0				

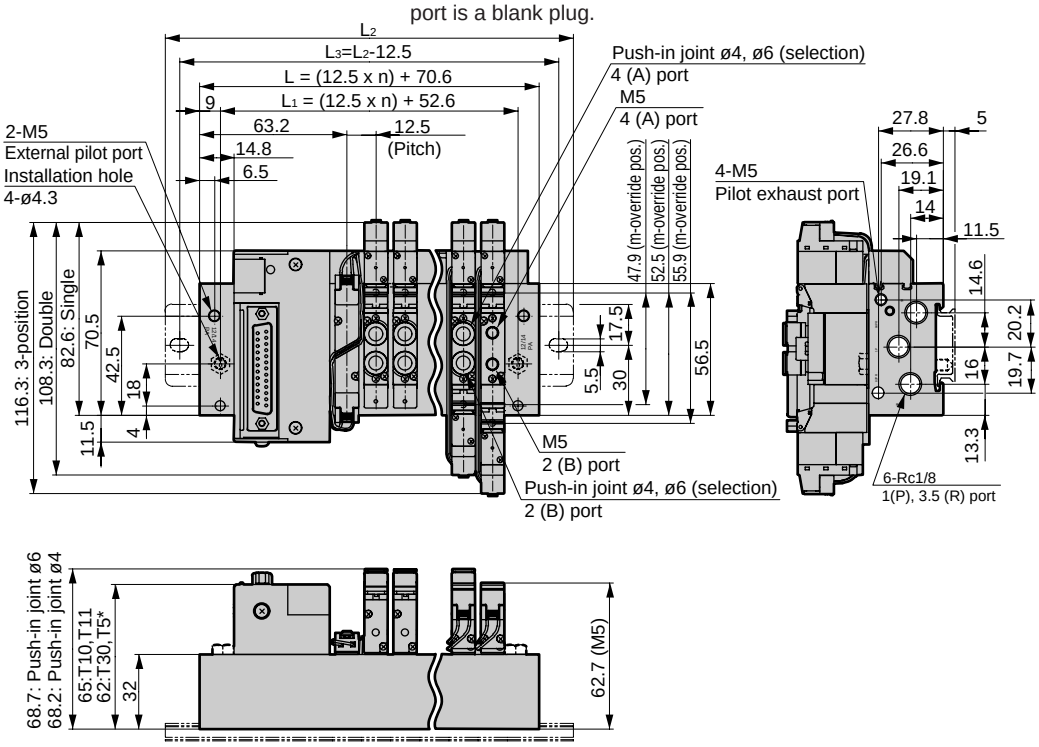
Dimensions

M4GA1

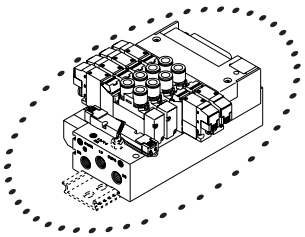
● Reduced wiring left type (T10, T11, T30, T50, T51, T52, T53)
External pilot (K)

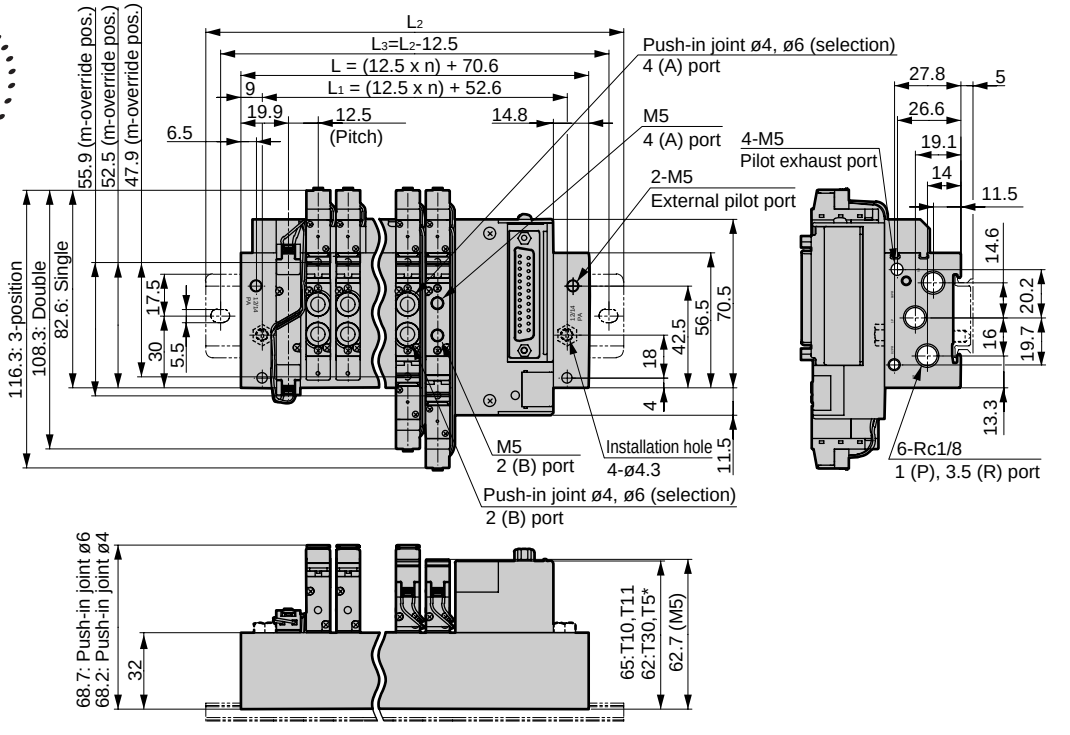
* The drawing shows the T30. Refer to Pages 202 to 203 for detailed dimensions of the wiring block.
* M3GA1 has the same dimensions as the single type. The A or B port is a blank plug.





● Reduced wiring right type (T10R, T11R, T30R, T50R, T51R, T52R, T53R)
External pilot (K)





Sta. no.	2	3	4	5	6	7	8	9	10	11	12
L	95.6	108.1	120.6	133.1	145.6	158.1	170.6	183.1	195.6	208.1	220.6
L_1	77.6	90.1	102.6	115.1	127.6	140.1	152.6	165.1	177.6	190.1	202.6
L_2	137.5	150.0	162.5	175.0	187.5	200.0	212.5	225.0	237.5	250.0	262.5
L_3	125.0	137.5	150.0	162.5	175.0	187.5	200.0	212.5	225.0	237.5	250.0

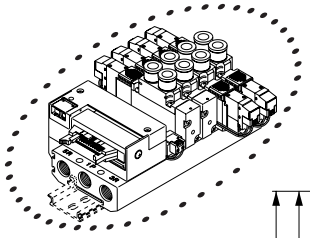
Dimensions

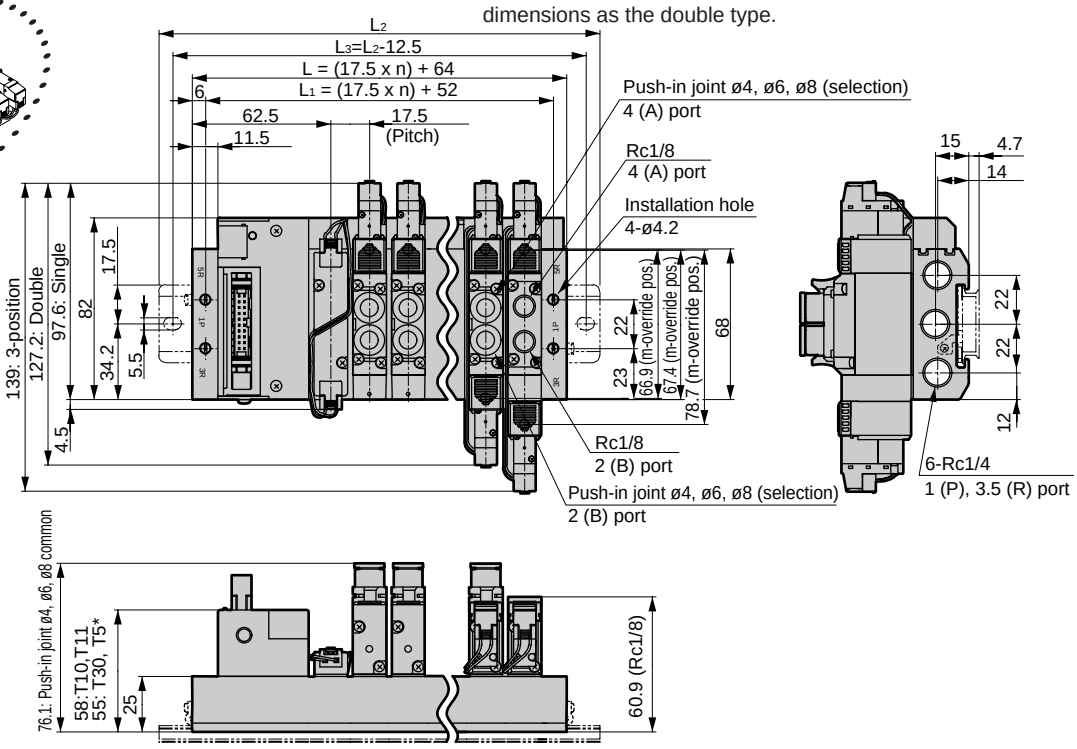
M4GA2

* The drawing shows the T30. Refer to Pages 202 to 203 for detailed dimensions of the wiring block.

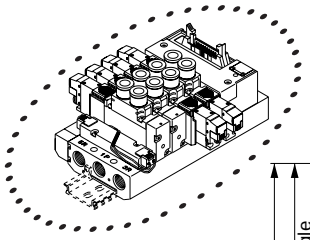
* M3GA2 has the same dimensions as the single type. The A or B port is a blank plug. The type with two 3 port valves has the same dimensions as the double type.

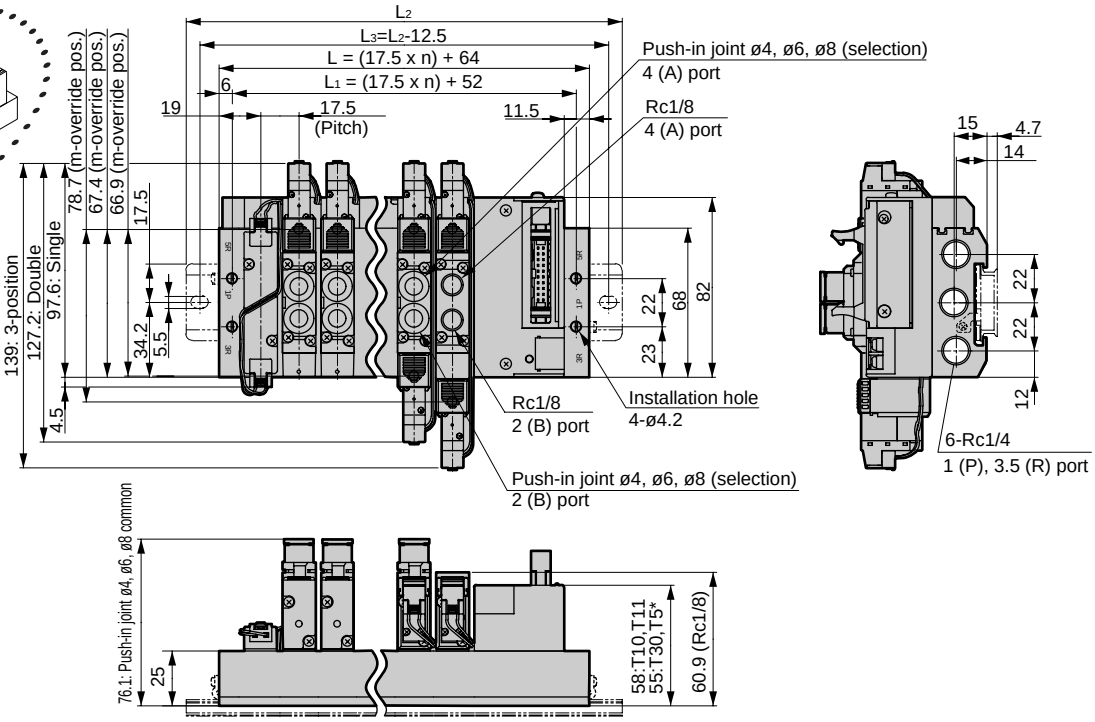
● Reduced wiring left type (T10, T11, T30, T50, T51, T52, T53)





● Reduced wiring right type (T10R, T11R, T30R, T50R, T51R, T52R, T53R)



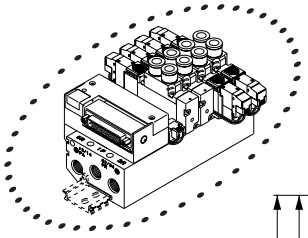


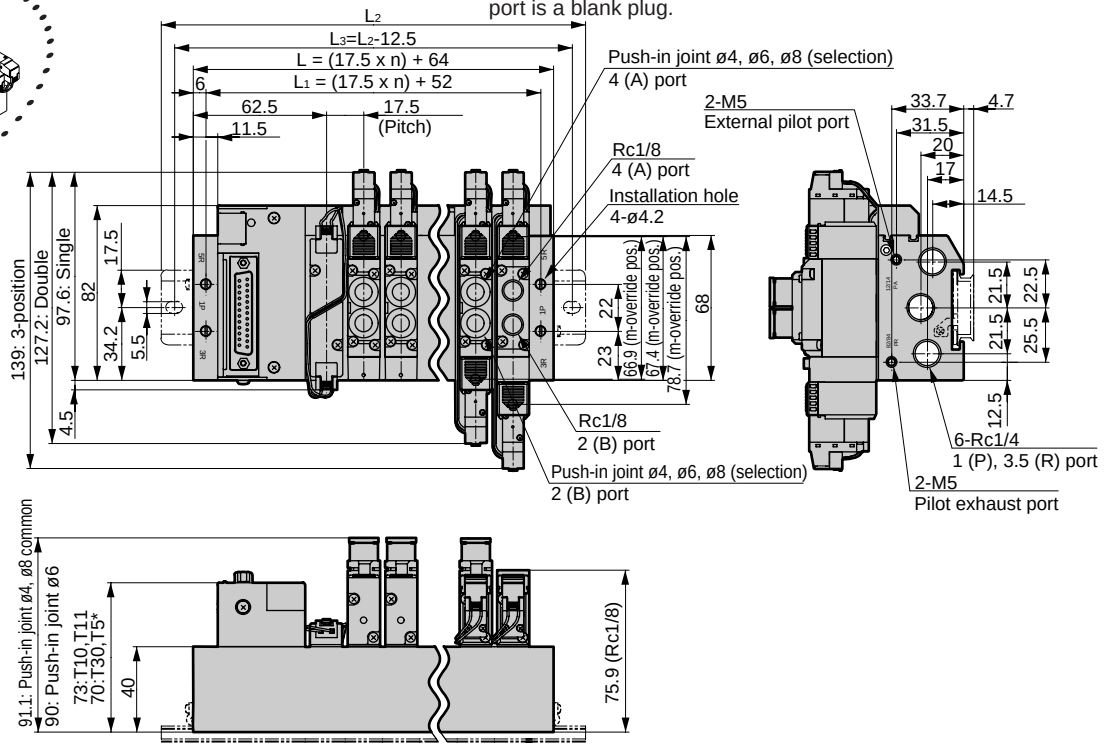
Sta. no.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L	99.0	116.5	134.0	151.5	169.0	186.5	204.0	221.5	239.0	256.5	274.0	291.5	309.0	326.5	344.0	361.5	379.0	396.5	414.0
L_1	87.0	104.5	122.0	139.5	157.0	174.5	192.0	209.5	227.0	244.5	262.0	279.5	297.0	314.5	332.0	349.5	367.0	384.5	402.0
L_2	150.0	162.5	175.0	200.0	212.5	237.5	250.0	262.5	287.5	300.0	325.0	337.5	350.0	375.0	387.5				
L_3	137.5	150.0	162.5	187.5	200.0	225.0	237.5	250.0	275.0	287.5	312.5	325.0	337.5	362.5	375.0				

Dimensions

M4GA2

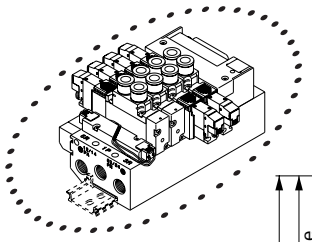
● Reduced wiring left type (T10, T11, T30, T50, T51, T52, T53)
External pilot (K)

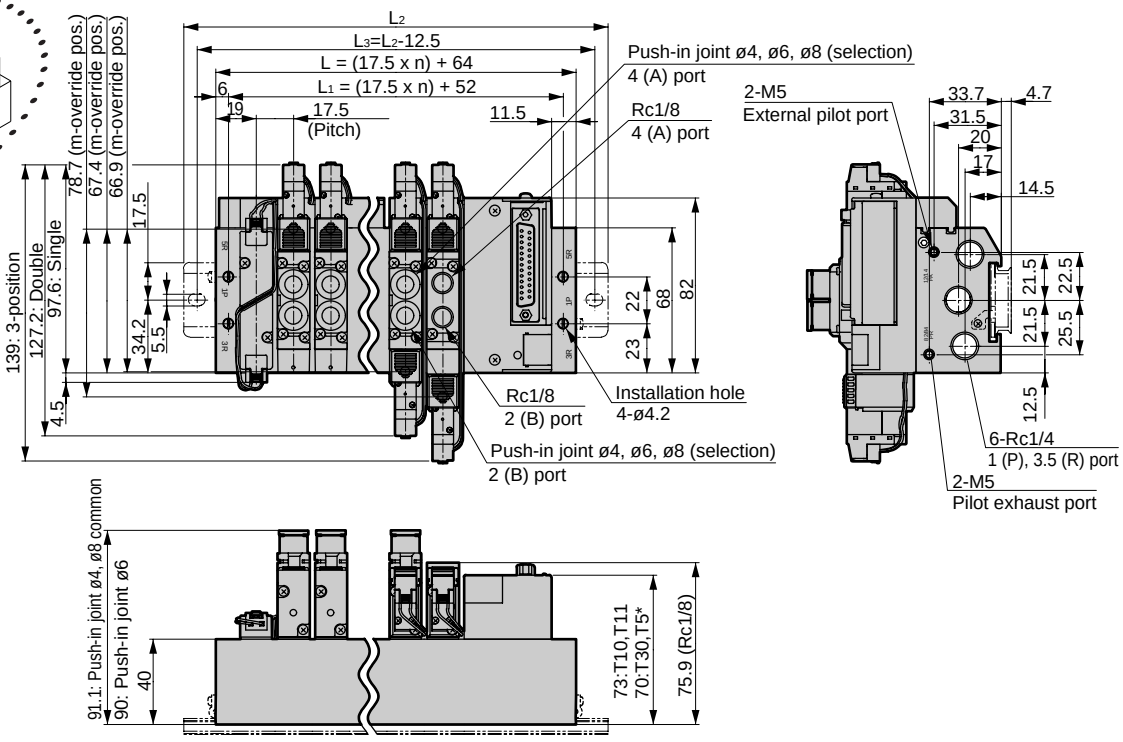




* The drawing shows the T30. Refer to Pages 202 to 203 for detailed dimensions of the wiring block.
* M3GA2 has the same dimensions as the single type. The A or B port is a blank plug.

● Reduced wiring right type (T10R, T11R, T30R, T50R, T51R, T52R, T53R)
External pilot (K)





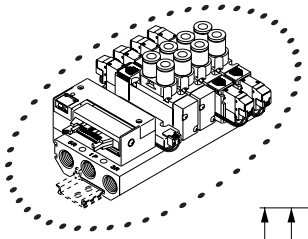
Sta. no.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L	99.0	116.5	134.0	151.5	169.0	186.5	204.0	221.5	239.0	256.5	274.0	291.5	309.0	326.5	344.0	361.5	379.0	396.5	414.0
L_1	87.0	104.5	122.0	139.5	157.0	174.5	192.0	209.5	227.0	244.5	262.0	279.5	297.0	314.5	332.0	349.5	367.0	384.5	402.0
L_2	150.0	162.5	175.0	200.0	212.5	237.5	250.0	262.5	287.5	300.0	325.0	337.5	350.0	375.0	387.5				
L_3	137.5	150.0	162.5	187.5	200.0	225.0	237.5	250.0	275.0	287.5	312.5	325.0	337.5	362.5	375.0				

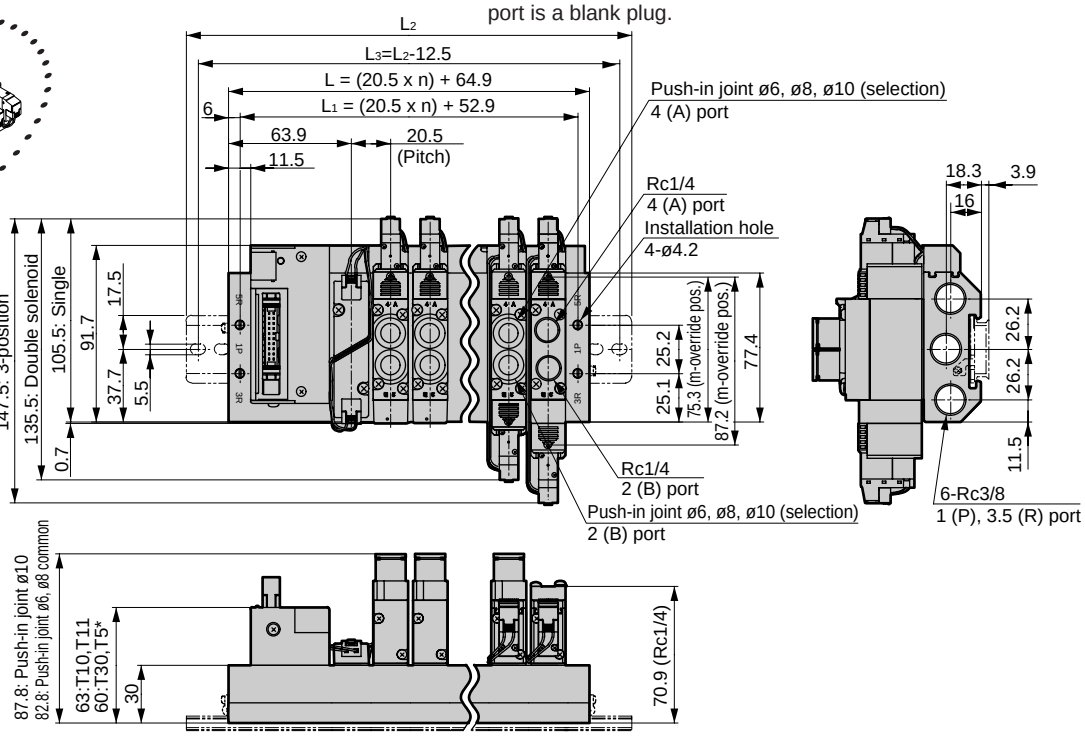
Dimensions

M4GA3

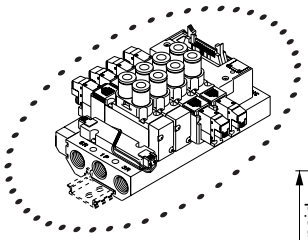
* The drawing shows the T30. Refer to Pages 202 to 203 for detailed dimensions of the wiring block.
* M3GA3 has the same dimensions as the single type. The A or B port is a blank plug.

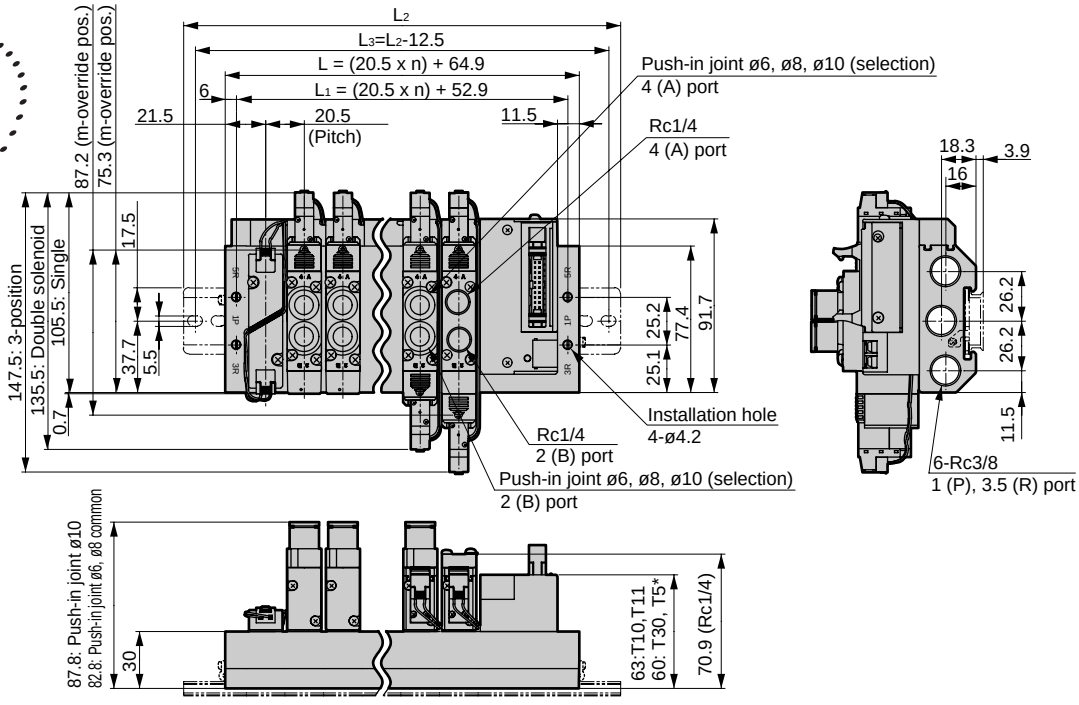
● Reduced wiring left type (T10, T11, T30, T50, T51, T52, T53)





● Reduced wiring right type (T10R, T11R, T30R, T50R, T51R, T52R, T53R)





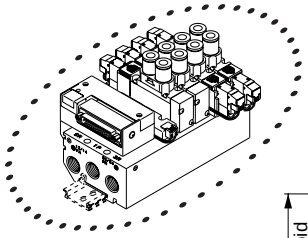
Sta. no.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L	105.9	126.4	146.9	167.4	187.9	208.9	228.9	249.4	269.9	290.4	310.9	331.4	351.9	372.4	392.9
L_1	93.9	114.4	134.9	155.4	175.9	196.4	216.9	237.4	257.9	278.4	298.9	319.4	339.9	360.4	380.9
L_2	150.0	175.0	200.0	212.5	237.5	250.0	275.0	300.0	312.5	337.5	362.5	375.0	400.0	425.0	437.5
L_3	137.5	162.5	187.5	200.0	225.0	237.5	262.5	287.5	300.0	325.0	350.0	362.5	387.5	412.5	425.0

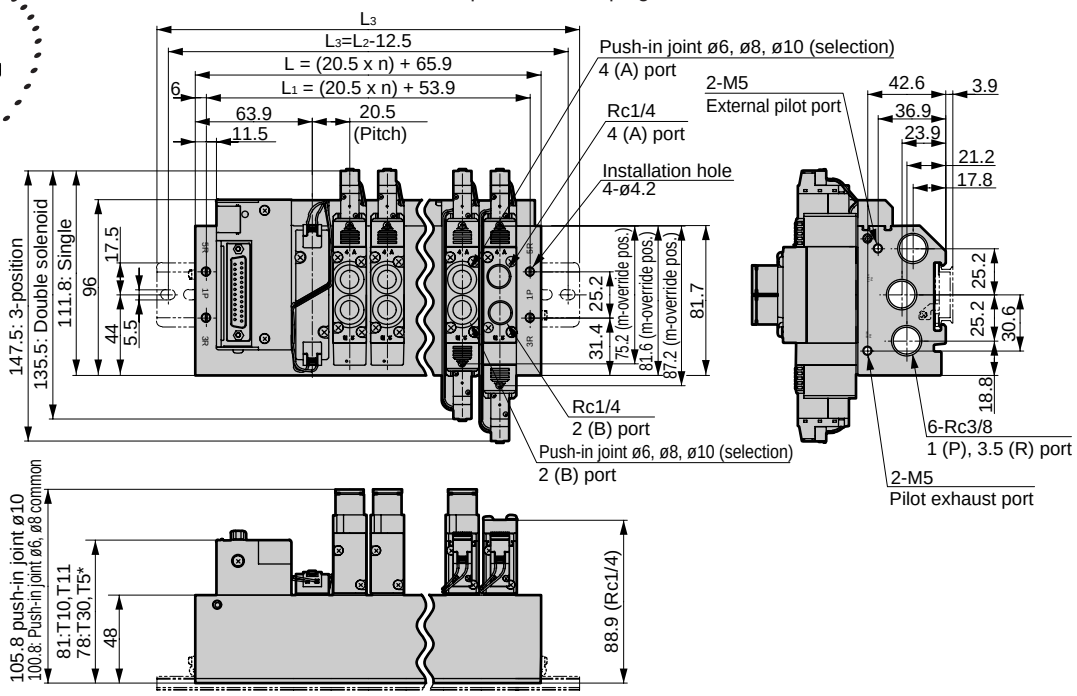
Dimensions

M4GA3

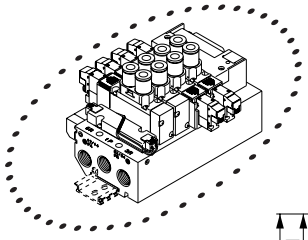
* The drawing shows the T30. Refer to Pages 202 to 203 for detailed dimensions of the wiring block.
* M3GA3 has the same dimensions as the single type. The A or B port is a blank plug.

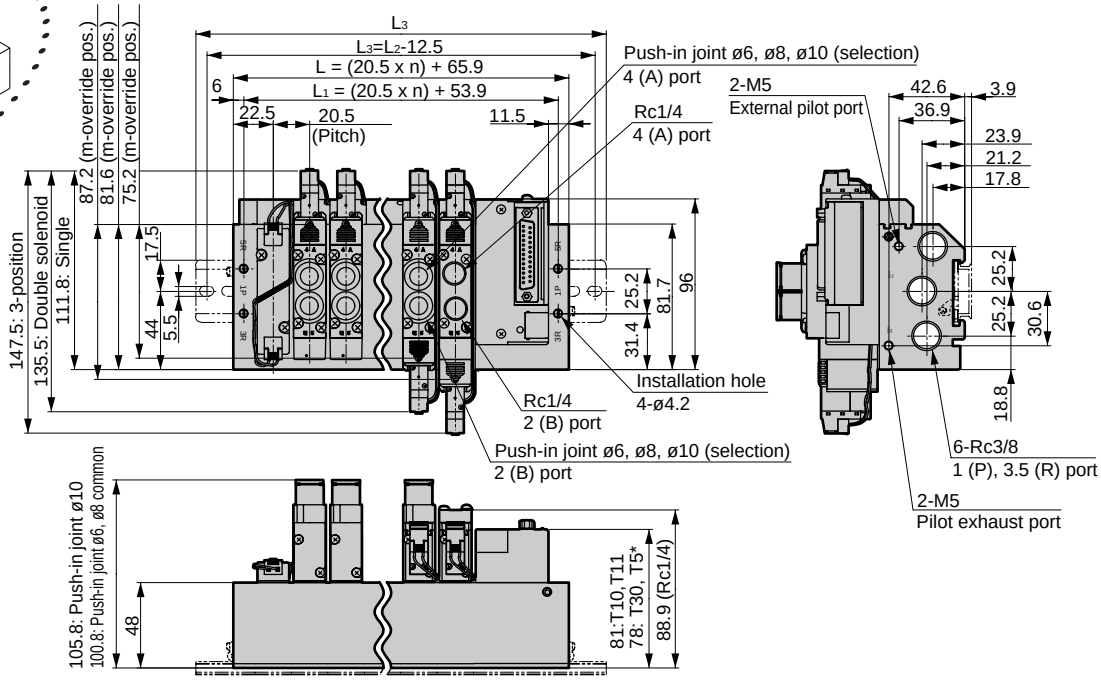
● Reduced wiring left type (T10, T11, T30, T50, T51, T52, T53)
External pilot (K)





● Reduced wiring right type (T10R, T11R, T30R, T50R, T51R, T52R, T53R)
External pilot (K)

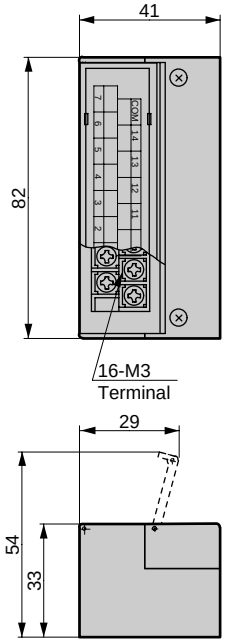




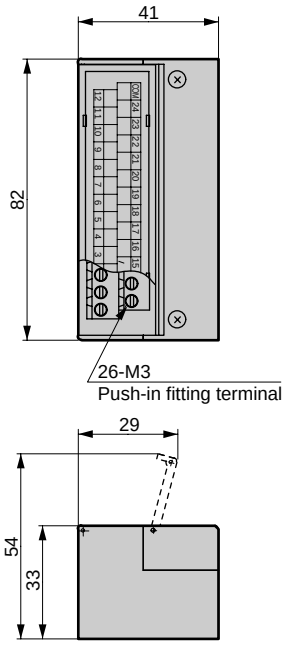
Sta. no.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L	106.9	127.4	147.9	168.4	188.9	209.4	229.9	250.4	270.9	291.4	311.9	332.4	352.9	373.4	393.9
L_1	94.9	115.4	135.9	156.4	176.9	197.4	217.9	238.4	258.9	279.4	299.9	320.4	340.9	361.4	381.9
L_2	150.0	175.0	200.0	212.5	237.5	250.0	275.0	300.0	312.5	337.5	362.5	375.0	400.0	425.0	437.5
L_3	137.5	162.5	187.5	200.0	225.0	237.5	262.5	287.5	300.0	325.0	350.0	362.5	387.5	412.5	425.0

Wiring block section: dimensions

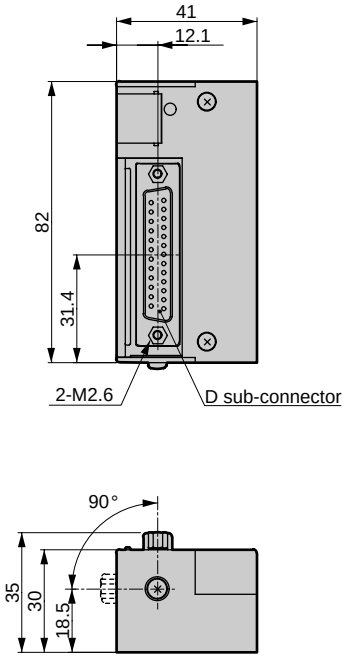
● Common gland (M3 screw) T10



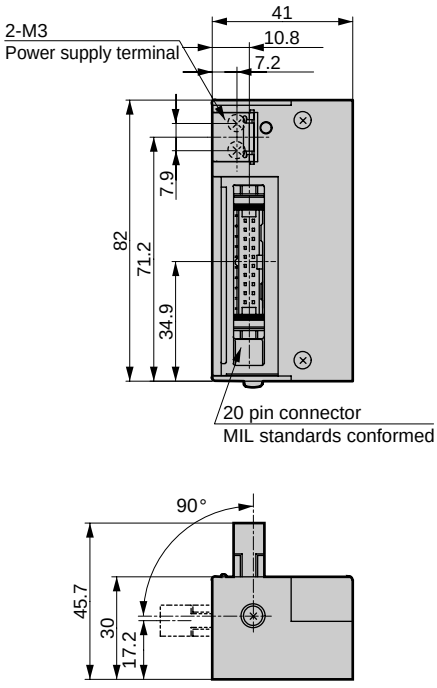
● Common gland (push-in fitting) T11



● D sub-connector T30

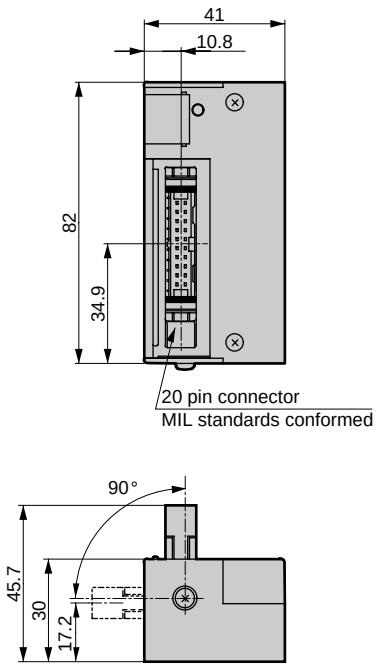


● 20 pin flat cable connector (with power supply terminal) T50

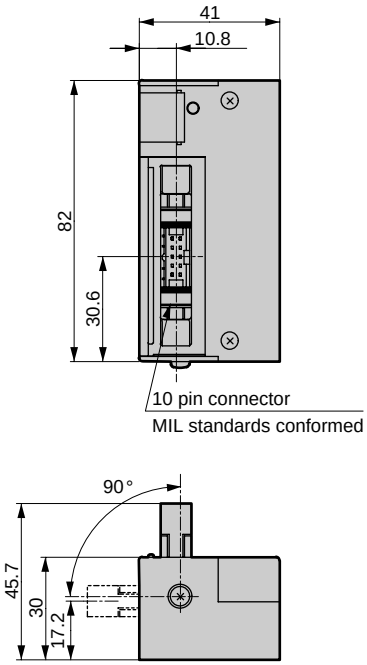


Wiring block section: dimensions

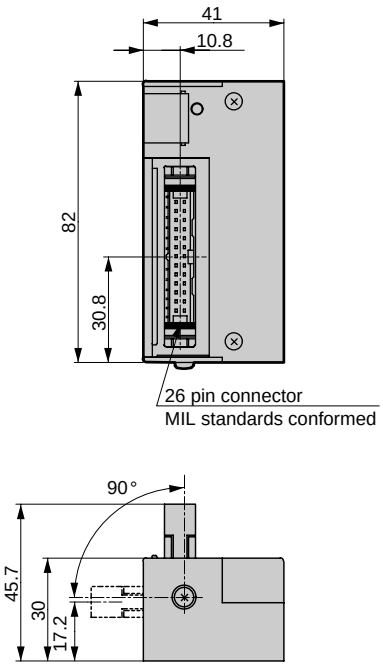
● 20 pin flat cable connector (without power supply terminal)
T51

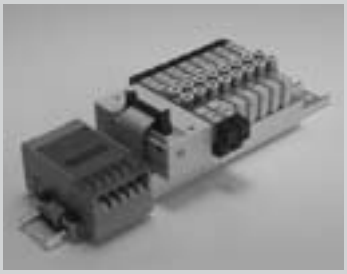


● 10 pin flat cable connector (without power supply terminal)
T52



● 26 pin flat cable connector (without power supply terminal)
T53





Reduced wiring manifold (serial transmission)
Body porting
DIN rail mount type

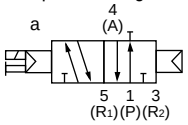
M3GA1/2/3-T6D Series
M4GA1/2/3-T6D Series

● Applicable cylinder bore size: ø20 to ø100

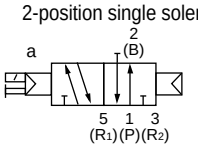
RoHS CAD

JIS symbol

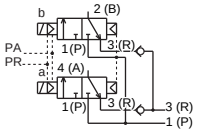
● 3 port valve
2-position single solenoid N.C. type



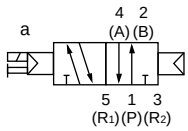
2-position single solenoid N.O. type



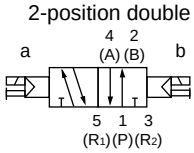
● Two 3 port valve integrated type
(A side valve: N.C. type, B side valve: N.C. type)



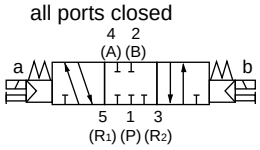
● 5 port valve
2-position single solenoid



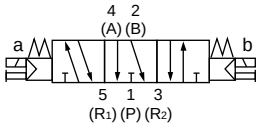
2-position double solenoid



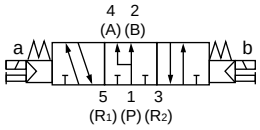
3-position
all ports closed



3-position A/B/R connection



3-position P/A/B connection



Manifold common specifications

Descriptions		
Manifold type		Serial transmission integrated base
Installation method		DIN rail installation
Air supply and exhaust method		Common supply / common exhaust (Check valve integrated)
Pilot exhaust method	Internal pilot	Main valve / pilot operated valve common exhaust (Pilot exhaust check valve integrated)
	External pilot	Main valve / pilot operated valve individual exhaust
Piping direction		Valve top direction
Type of valve and operation method		Pilot operated soft spool valve
Working fluid		Compressed air
Max. working pressure MPa		0.7
Min. working pressure MPa		0.2 (2-position, 3-position)
Withstanding pressure MPa		1.05
Ambient temperature °C		-5 to 55 (no freezing)
Fluid temperature °C		5 to 55
Manual override		Non-locking/locking common type
Lubrication Note 1		Not required
Protective structure Note 2		Dust proof
Vibration/impact m/s²		50 or less / 300 or less
Working environment		Containing corrosive gas is impermissible.

Note 1 Use the turbine oil Class 1 ISO VG32 if lubricated. Excessive or intermittent lubrication results in instable operation.
Note 2 Check that water drops or oil, etc., do not come into contact.
Note 3 The working pressure range is 0 to 0.7 MPa when the external pilot (option symbol: K) is selected. Set the external pilot pressure between 0.2 and 0.7 MPa.

Electric specifications

Descriptions	
Rated voltage V DC	24
Rated voltage fluctuation range	±10%
Holding current A	0.025
Power consumption W	0.6
Heat proof class	B
Temperature rise °C	50
Surge suppressor	Provided as standard
Indicator	With indicator light

Individual specifications

Descriptions		M3GA1/M4GA1	M3GA2/M4GA2	M3GA3/M4GA3
Max. station number	Standard	16 stations	16 stations	16 stations
	External pilot	12 stations		
Maximum solenoid number		Depending on slave unit specifications and output no.		
Port size	A/B port	Push-in joint ø4, ø6 M5	Push-in joint ø4, ø6, ø8 Rc1/8	Push-in joint ø6, ø8, ø10 Rc1/4
	P/R1/R2 port	Rc1/8	Rc1/4	Rc3/8
Manifold base weight calculation formula (n: station number) g	Standard	31n+375	56n+444	86n+501
	External pilot	46n+494	98n+615	151n+731

The manifold base weight is the value for screw connections specifications with the DIN rail, wiring block and slave unit.

Flow characteristics

Model no.	Solenoid position		P → A/B		A/B → R1/R2	
			C (dm³/ (s·bar))	b	C (dm³/ (s·bar))	b
M3GA1 M4GA1	Two 3 port valve integrated type		0.86	0.31	0.66	0.22
	2-position		0.99	0.20	0.70	0.12
	3-position	All ports closed	0.94	0.23	0.99	0.09
		ABR connection	0.93	0.18	0.70	0.02
		PAB connection	1.1	0.28	1.0	0.12
M3GA2 M4GA2	Two 3 port valve integrated type		1.7	0.40	1.7	0.32
	2-position		2.3	0.36	1.7	0.33
	3-position	All ports closed	2.1	0.35	2.4	0.37
		ABR connection	2.2	0.37	1.8	0.29
		PAB connection	2.4	0.34	2.5	0.33
M3GA3 M4GA3	2-position		3.2	0.37	2.5	0.28
	3-position	All ports closed	2.9	0.35	3.2	0.35
		ABR connection	3.0	0.34	2.6	0.27
		PAB connection	3.3	0.30	3.3	0.32

Note 1: Effective sectional area S and sonic conductance C are converted as S ≒ 5.0 × C.
Note 2: Values for the built-in check valve apply for the 2-position, two 3 port valve integrated type and A/B/R connection.

Serial transmission slave unit specifications (Refer to Page 381 for the applicable PLC table.)

Descriptions		T6G1 Note 1	T6C0 Note 2 T6C1	T6A0 Note 3 T6A1	T6E0 T6E1	T6J0 Note 3 T6J1
Communication device maker		CC-Link	OMRON CompoBus/S	UNIWIRE SYSTEM	SUNX S-LINK	UNIWIRE H SYSTEM
Power voltage	Unit side	24 VDC ±10%		24 VDC +10% -5%		
	Valve side	24 VDC +10% -5%		(Unit power supply, valve power supply common terminal)		
Current consumption	Unit side	100mA or less (when all output points ON)		100mA or less (when all output points ON)		
	Valve side	15mA or less (when all output points OFF)		Load current is not included		
Output number		16 points	T6*0: 8 points T6*1: 16 points			
Occupied number		1 station	T6C0: 1 node address (8 point mode) T6C1: 2 node address (8 point mode)	T6A0: output 8 points T6A1: output 16 points	T6E0: FAN-in: 3 T6E1: FAN-in: 3	T6J0: output 8 points T6J1: output 16 points
Operating indication		LED (power supply and communication state)				

Note 1: CC-Link is ver1.10.
Note 2: Not compatible with long-distance communication mode. Contact CKD for details on compatibility.
Note 3: Compatible with the number of transmission points, 128 points, and transmission distance, 200 m. Contact CKD for other specifications.

Ozone specifications • Coolant proof specifications

Can be selected with "F" option "A" in How to Order on Page 206.

Clean room specifications (Catalog No. CB-033SA)

● Dust generation preventing structure for use in cleanrooms

** - VOLTAGE - P7*

M$^{3}_{4}$GA1/2/3-T6D Series

Reduced wiring manifold; body porting; serial transmission

How to order

Manifold model no.

M 4GA1 1 0 - C6 - T6A0 W H D - ○ - ○

3 port manifold model no.

M 3GA1 1 0 - C6 - T6A0 W H D - ○ - ○

Discrete valve for base installation

4GA1 1 9 - C6 - A2N H ——— ○

Discrete 3 port valve for base installation

3GA1 1 9 - C6 - A2N H ——— ○

Ⓑ Solenoid position

Ⓐ Model no.

A2N indicates an A (downward) connector, with a lamp and surge suppressor, and no lead.

Ⓒ Port size

Ⓓ Serial transmission
Zener diode is used for surge suppressor.

Ⓔ Terminal/connector pin array

Ⓕ Option

Ⓖ Station number

Ⓗ Voltage

* Complete manifold specification sheet (Pages 242 to 253).

Symbol	Descriptions	Ⓐ Model no. 3GA1	3GA2	3GA3	4GA1	4GA2	4GA3
Ⓑ Solenoid position							
1	2-position single solenoid				●	●	●
2	2-position double solenoid				●	●	●
3	3-position all ports closed				●	●	●
4	3-position A/B/R connection				●	●	●
5	3-position P/A/B connection				●	●	●
1	2-position single solenoid normally closed	●	●	●			
11	2-position single solenoid normally open	●	●	●			
66	Two 3 port valve integrated type A side valve: normally closed Note 1, 2 B side valve: normally closed	●	●				
8	Mix manifold	●	●	●	●	●	●
Ⓒ Port size							
Port	A/B port	P/R1/R2 port (2)= Rc1/8 (3)= Rc1/4 (4)= Rc3/8					
C4	ø4 push-in joint	(2)	(3)		(2)	(3)	
C6	ø6 push-in joint	(2)	(3)	(4)	(2)	(3)	(4)
C8	ø8 push-in joint		(3)	(4)		(3)	(4)
C10	ø10 push-in joint			(4)			(4)
CX	Push-in joint mix Note 7	(2)	(3)	(4)	(2)	(3)	(4)
M5	M5	(2)			(2)		
06	Rc1/8		(3)			(3)	
08	Rc1/4			(4)			(4)
Ⓓ Serial transmission (light and surge suppressor provided as standard)							
T6A0	UNIWIRE SYSTEM 8 points	●	●	●	●	●	●
T6A1	UNIWIRE SYSTEM 16 points	●	●	●	●	●	●
T6C0	OMRON CompoBus/S 8 points	●	●	●	●	●	●
T6C1	OMRON CompoBus/S 16 points	●	●	●	●	●	●
T6E0	SUNX S-LINK 8 points	●	●	●	●	●	●
T6E1	SUNX S-LINK 16 points	●	●	●	●	●	●
T6G1	CC-Link	●	●	●	●	●	●
T6J0	UNIWIRE H SYSTEM 8 points	●	●	●	●	●	●
T6J1	UNIWIRE H SYSTEM 16 points	●	●	●	●	●	●
Ⓔ Terminal/connector pin array							
Blank	Standard wiring Note 3	●	●	●	●	●	●
W	Double wiring Note 3	●	●	●	●	●	●
Ⓕ Option							
Blank	None	●	●	●	●	●	●
H	With check valve Note 4	●	●	●	●	●	●
K	External pilot Note 5	●	●	●	●	●	●
A	Ozone/coolant proof	●	●	●	●	●	●
F	A/B port filter integrated (P port: provided as standard)	●	●	●	●	●	●
Z1	Air supply spacer Note 6	●	●	●	●	●	●
Z2	In stop valve spacer Note 6		●	●		●	●
Ⓖ Station number							
2	2 stations	●	●	●	●	●	●
to	to						
16	Refer to Page 204 for maximum station number.						
Ⓗ Voltage							
3	24 VDC	●	●	●	●	●	●

is not available.

Note on model no. selection

Note 1: Select M4GA*80 when mixing with the 4, 5 port valves.
Select M3GA*80 when mixing with the masking plate.

Note 2: Combination with the external pilot (K) is not available.
The dimension drawings are the same dimensions as each 2-position double solenoid.

Note 3: Blank ... Wired based on the type of valve used.
W ... All wired for the double solenoid regardless of the type of valve used.

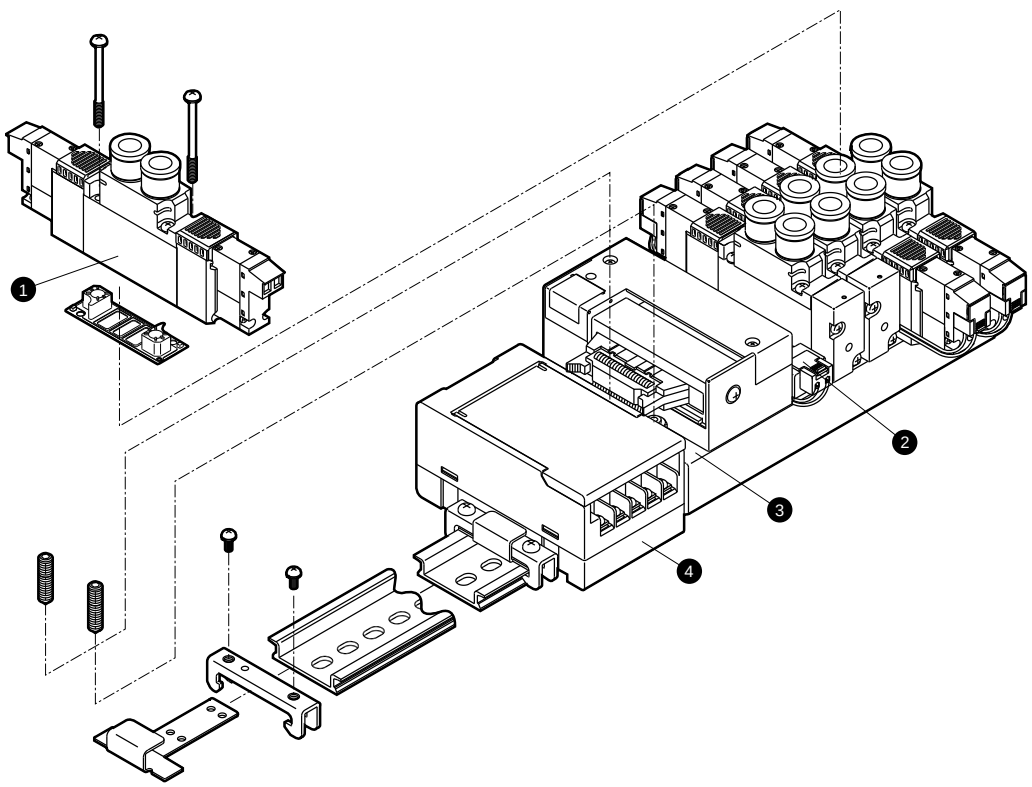
Note 4: The check valve specifications (H) are not available for the 3-position all port closed or P/A/B connection. Refer to Page 382 for details on the check valve.

Note 5: Consult CKD for details on using vacuum with the external pilot (K).

Note 6: Specify the spacer mounting location and quantity in manifold specifications.
Refer to Pages 234 to 236 for details

Note 7: The push-in joint cannot be mixed with the discrete valve's 4(A) or 2(B) port.

Explanation of manifold components and parts list



Main parts list

No.	Component name		Model no.	Descriptions	Remarks
1	Discrete valve for base installation		4GA** 9- Port size -A2N Option - Voltage Solenoid position Flow rate	Discrete valve Gasket Two set screws Two PR check valves	Refer to Page 206 for details.
2	Masking plate	3G1/4G1	4G1-MP	Masking plate Gasket Two set screws	* 3G2/4G2 and 3G3/4G3 have two PR check valves.
		3G2/4G2	4G2-MP		
		3G3/4G3	4G3-MP		
3	Manifold base assembly		M4GA* -00- T56 Option - Station number Flow rate	Manifold base Wiring block	
4	Serial transmission slave unit			OPP3	Consult with CKD.

Repair parts and related parts list

No.	Part name	Model no.
-	Coil assembly	4G-A2N-*-COIL- Voltage Blank: Standard A: Ozone proof
-	A-connector socket assembly Refer to Page 449 for details	Flow rate 4G*-SOCKET-ASSY-A** Manifold No. Blank: Left, R: Right a: aSOL, b: bSOL n: Designate the location of the connected valve
-	Silencer	M5: SLM-M5
		Rc1/8: SLW-6A, SLW-6S
		Rc1/4: SLW-8A, SLW-8S
		Rc3/8: SLW-10A, SLW-10L
-	DIN rail kit	Refer to Page 77 for details

No.	Part name	Model no.		
-	Cartridge type push-in joint and related parts	4G1	ø4 straight	4G1-JOINT-C4
			ø6 straight	4G1-JOINT-C6
			Plug cartridge	4G1-JOINT-CPG
		4G2	ø4 straight	4G2-JOINT-C4
			ø6 straight	4G2-JOINT-C6
			ø8 straight	4G2-JOINT-C8
			Plug cartridge	4G2-JOINT-CPG
		4G3	ø6 straight	4G3-JOINT-C6
			ø8 straight	4G3-JOINT-C8
			ø10 straight	4G3-JOINT-C10
			Plug cartridge	4G3-JOINT-CPG

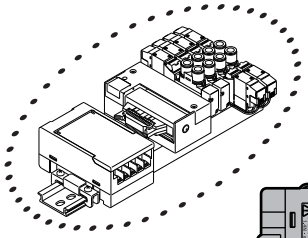
Dimensions CAD

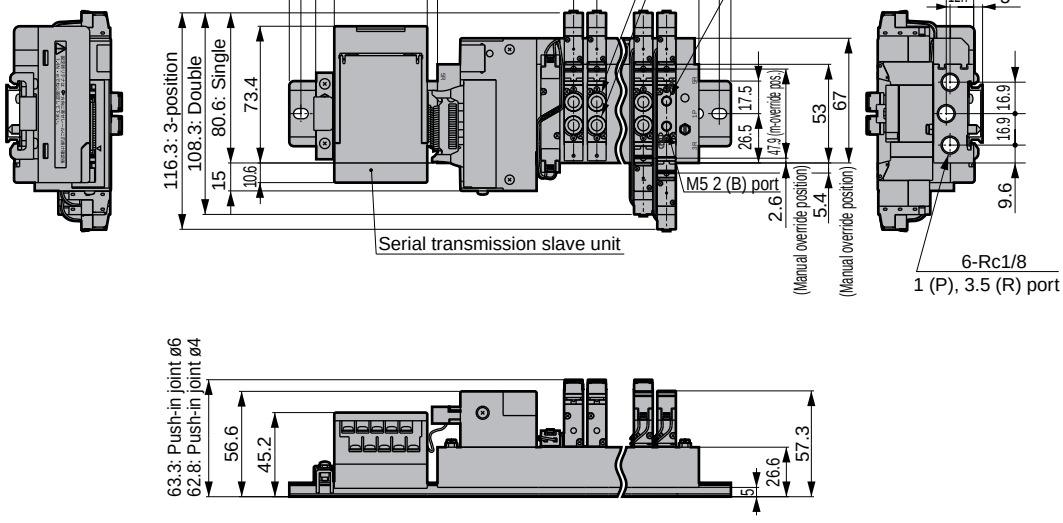
M4GA1

● Serial transmission (T6*)

DIN rail installation type (D)

* M3GA1 has the same dimensions as the single type. The A or B port is a blank plug. The type with two 3 port valves has the same dimensions as the double type.



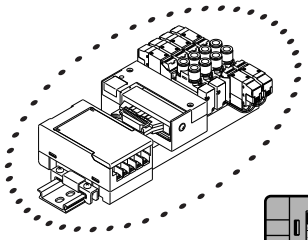


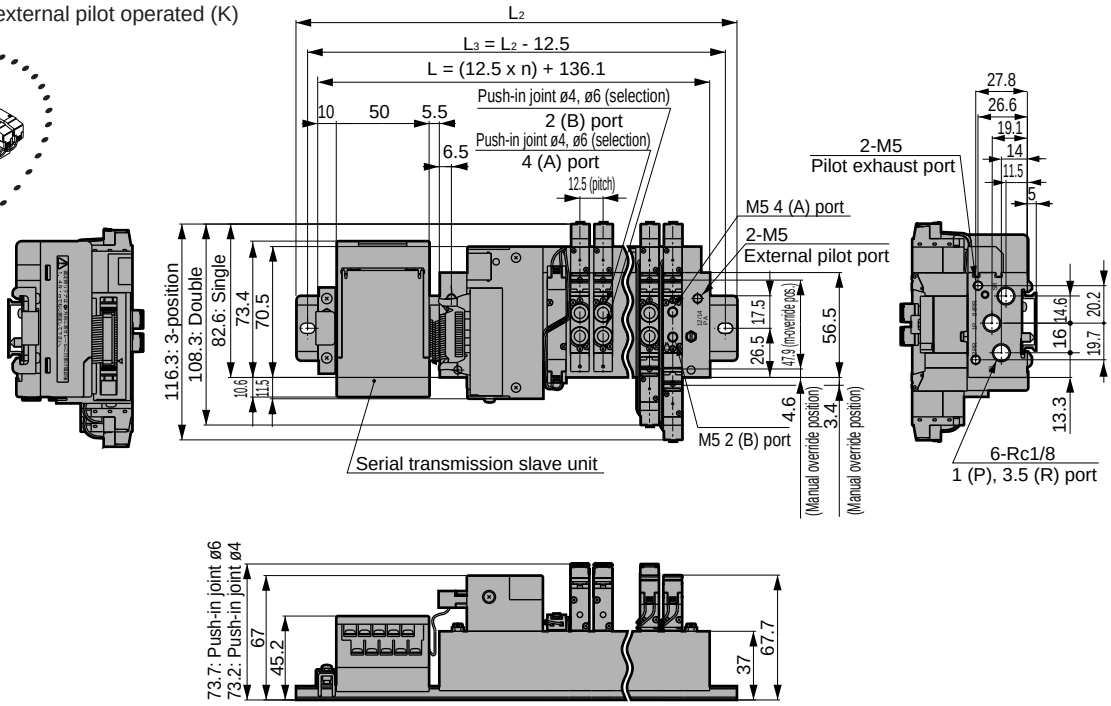
Sta. no.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L	156.1	168.6	181.1	193.6	206.1	218.6	231.1	243.6	256.1	268.6	281.1	293.6	306.1	318.6	331.1
L_2	200.0	212.5	225.0	237.5	250.0	262.5	275.0	287.5	300.0	312.5	325.0	337.5	350	362.5	375
L_3	187.5	200.0	212.5	225.0	237.5	250.0	262.5	275.0	287.5	300.0	312.5	325	337.5	350	362.5

M4GA1

● Serial transmission (T6*)

DIN rail installation (D); external pilot operated (K)





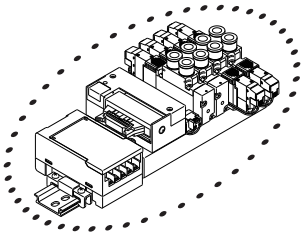
Sta. no.	2	3	4	5	6	7	8	9	10	11	12
L	161.1	173.6	186.1	198.6	211.1	223.6	236.1	248.6	261.1	273.6	286.1
L_2	212.5	225.0	237.5	250.0	262.5	275.0	287.5	300.0	312.5	325.0	337.5
L_3	200.0	212.5	225.0	237.5	250.0	262.5	275.0	287.5	300.0	312.5	325.0

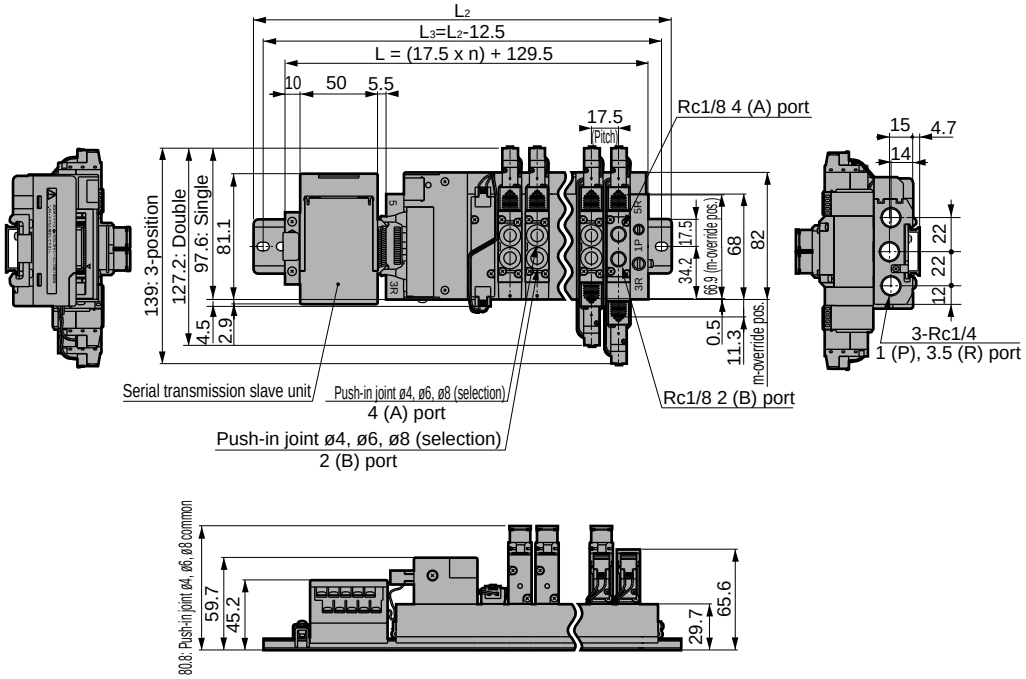
Dimensions CAD

M4GA2

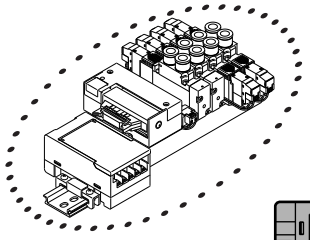
* M3GA2 has the same dimensions as the single type. The A or B port is a blank plug. The type with two 3 port valves has the same dimensions as the double type.

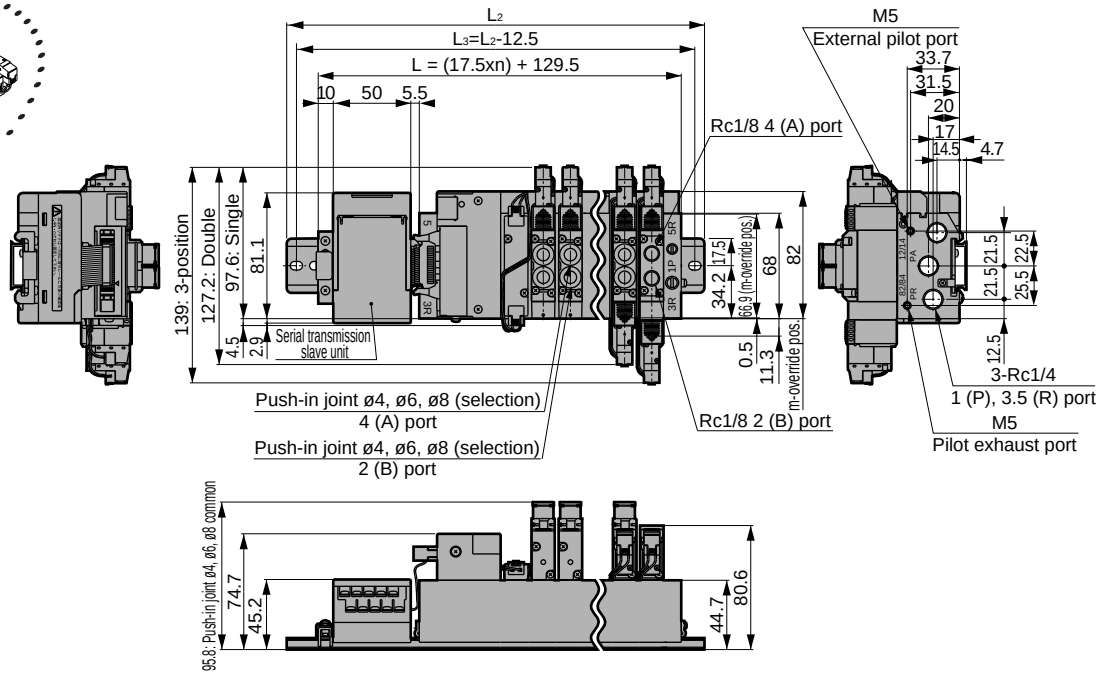
● Serial transmission (T6*)
DIN rail installation type (D)





● Serial transmission (T6*)
DIN rail installation (D); external pilot operated (K)



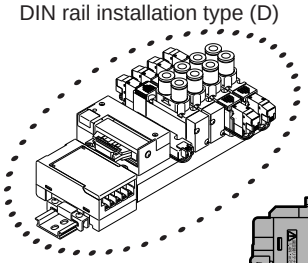


Sta. no.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L	164.5	182.0	199.5	217.0	234.5	252.0	269.5	287.0	304.5	322.0	339.5	357.0	374.5	392.0	409.5
L_2	212.5	225.0	250.0	262.5	275.0	300.0	312.5	337.5	350.0	362.5	387.5	400.0	425.0	437.5	450.0
L_3	200.0	212.5	237.5	250.0	262.5	287.5	300.0	325.0	337.5	350.0	375.0	387.5	412.5	425.0	437.5

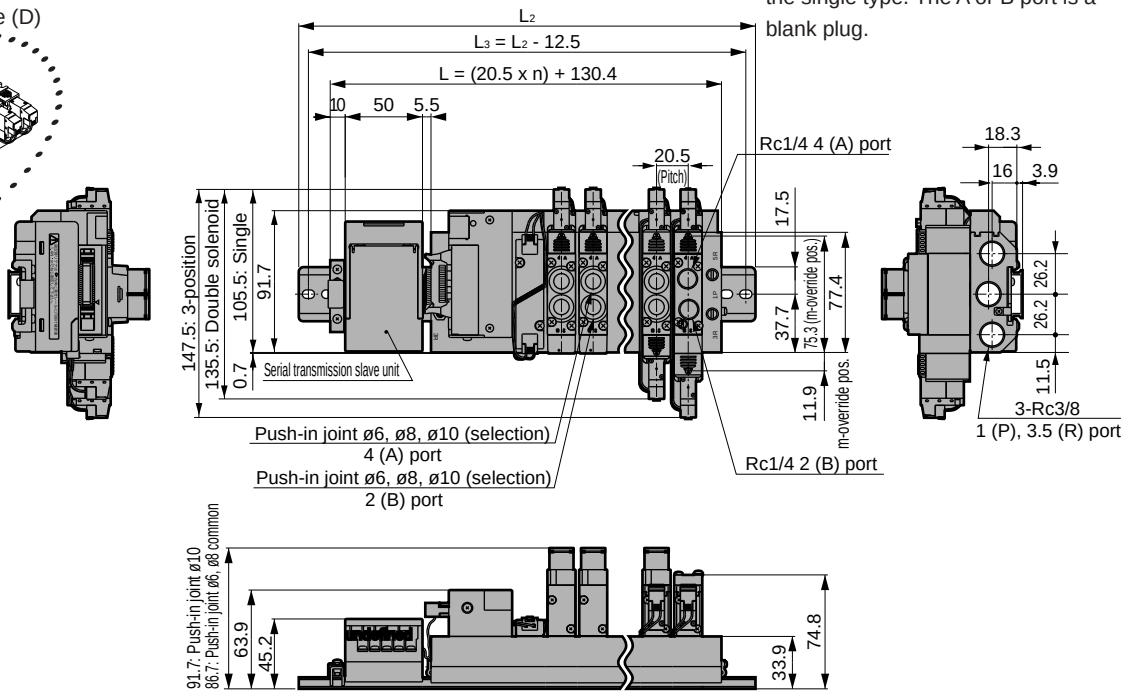
Dimensions CAD

M4GA3

● Serial transmission (T6*)
DIN rail installation type (D)



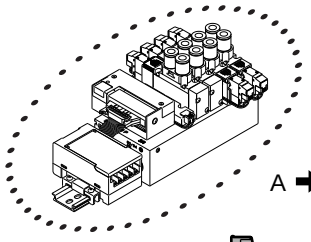
* M3GA3 has the same dimensions as the single type. The A or B port is a blank plug.



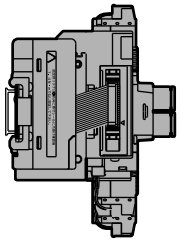
Sta. no.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L	171.4	191.9	212.4	232.9	253.4	273.9	294.4	314.9	335.4	355.9	376.4	396.9	417.4	437.9	458.4
L_2	212.5	237.5	262.5	275.0	300.0	325.0	337.5	362.5	387.5	400.0	425.0	437.5	462.5	487.5	500.0
L_3	200.0	225.0	250.0	262.5	287.5	312.5	325.0	350.0	375.0	387.5	412.5	425.0	450.0	475.0	487.5

M4GA3

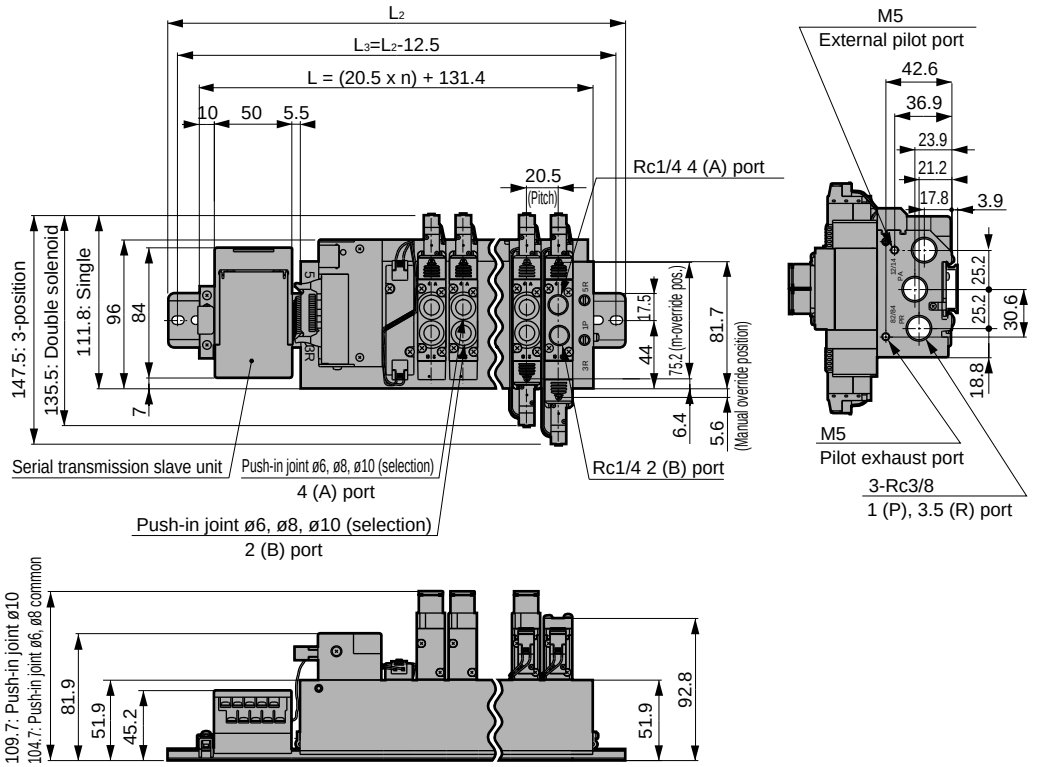
● Serial transmission (T6*)
DIN rail installation type (D);
external pilot operated (K)



A ➡



View A



Sta. no.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L	172.4	192.9	213.4	233.9	254.4	274.9	295.4	315.9	336.4	356.9	377.4	397.9	418.4	438.9	459.4
L_2	212.5	237.5	262.5	275.0	300.0	325.0	337.5	362.5	387.5	400.0	425.0	450.0	462.5	487.5	500.0
L_3	200.0	225.0	250.0	262.5	287.5	312.5	325.0	350.0	375.0	387.5	412.5	437.5	450.0	475.0	487.5

● Discrete serial transmission slave unit model no.

4G – **OPP3** – **0A**

Ⓐ Wiring methods

Symbol	Descriptions	
Ⓐ Wiring methods		
0A	T6A0	UNIWIRE SYSTEM 8 points
1A	T6A1	UNIWIRE SYSTEM 16 points
0C	T6C0	OMRON Compobus/S 8 points
1C	T6C1	OMRON Compobus/S 16 points
0E	T6E0	SUNX S-LINK 8 points
1E	T6E1	SUNX S-LINK 16 points
1G	T6G1	CC-LINK
0J	T6J0	UNIWIRE H SYSTEM 8 points
1J	T6J1	UNIWIRE H SYSTEM 16 points

Reduced wiring manifold (common gland, D sub-connector, flat cable connector)

Sub-base porting

Direct mount type / DIN rail mount type

M3GB1/2-T* (D) Series
M4GB1/2/3-T* (D) Series

● Applicable cylinder bore size: ø20 to ø100

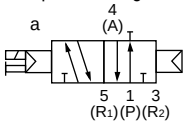
* Refer to Page 226 for serial transmission.

RoHS CAD

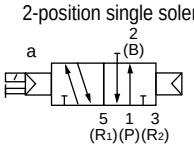
JIS symbol

● 3 port valve

2-position single solenoid N.C. type

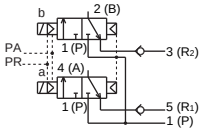


2-position single solenoid N.O. type



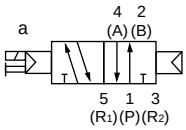
● Two 3 port valve integrated type

(A side valve: N.C. type, B side valve: N.C. type)

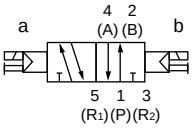


● 5 port valve

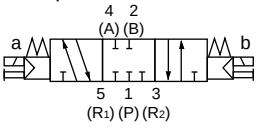
2-position single solenoid



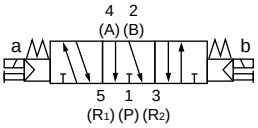
2-position double solenoid



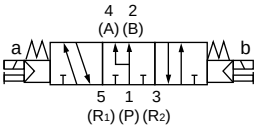
3-position all ports closed



3-position A/B/R connection



3-position P/A/B connection



Manifold common specifications

Descriptions		
Manifold type		Reduced wiring integrated base
Installation method		Direct mount / DIN rail mount
Air supply and exhaust method		Common supply / common exhaust (Check valve integrated)
Pilot exhaust method	Internal pilot	Main valve / pilot operated valve common exhaust (Pilot exhaust check valve integrated)
	External pilot	Main valve / pilot operated valve individual exhaust
Piping direction		Sub-base side porting
Type of valve and operation method		Pilot operated soft spool valve
Working fluid		Compressed air
Max. working pressure MPa		0.7
Min. working pressure MPa		0.2 (2-position, 3-position)
Withstanding pressure MPa		1.05
Ambient temperature °C		-5 to 55 (no freezing)
Fluid temperature °C		5 to 55
Manual override		Non-locking/locking common type
Lubrication Note 1		Not required
Protective structure Note 2		Dust proof
Vibration/impact m/s^2		50 or less / 300 or less
Working environment		Containing corrosive gas is impermissible.

Note1 Use the turbine oil Class 1 ISO VG32 if lubricated. Excessive or intermittent lubrication results in instable operation.

Note2 Check that water drops or oil, etc., do not come into contact.

Note3 The working pressure range is 0 to 0.7 MPa when the external pilot (option symbol: K) is selected. Set the external pilot pressure between 0.2 and 0.7 MPa.

Electric specifications

Descriptions		
Rated voltage	DC	12 , 24
Rated voltage fluctuation range		±10%
Holding current	24VDC	0.025
A	12VDC	0.050
Power consumption	24VDC	0.6
W	12VDC	0.6
Heat proof class		B
Temperature rise °C		50
Surge suppressor		Provided as standard
Indicator		With indicator light

Individual specifications

Descriptions		M3GB1/M4GB1		M3GB2/M4GB2		M4GB3	
		T*		T*		T*	
		Direct mount	DIN rail mount	Direct mount	DIN rail mount	Direct mount	DIN rail mount
Max. station number	Standard (internal pilot)	20 stations	16 stations	20 stations	16 stations	16 stations	
	External pilot	12 stations					
Port size	A/B port	Push-in joint ø4, ø6 M5		Push-in joint ø4, ø6, ø8 Rc1/8		Push-in joint ø6, ø8, ø10 Rc1/4	
	P/R1/R2 port	Rc1/8		Rc1/4		Rc3/8	
Manifold base weight calculation formula (n: station number) g	Standard	43n+335	45n+348	80n+398	82n+431	124n+548	126n+582
	External pilot	44n+330	46n+344	88n+433	90n+467	129n+577	131n+606

The manifold base weight is the value for screw connections specifications with the DIN rail and wiring block. The maximum number of manifold stations is limited by the maximum solenoid points for each of the following wiring specifications.

Flow characteristics

Model no.	Solenoid position		P→A/B		A/B→R1/R2	
			C (dm³/(s·bar))	b	C (dm³/(s·bar))	b
M3GB1 M4GB1	Two 3 port valve integrated type		0.86	0.35	0.67	0.23
	2-position		1.1	0.22	0.70	0.10
	3-position	All ports closed	0.98	0.22	1.0	0.11
		ABR connection	0.97	0.35	0.68	0.24
		PAB connection	1.1	0.38	0.99	0.22
M3GB2 M4GB2	Two 3 port valve integrated type		1.7	0.44	1.6	0.30
	2-position		2.4	0.34	1.7	0.31
	3-position	All ports closed	2.2	0.34	2.4	0.29
		ABR connection	2.2	0.34	1.8	0.27
		PAB connection	2.4	0.29	2.4	0.29
M4GB3	2-position		3.5	0.34	2.6	0.27
	3-position	All ports closed	3.1	0.33	3.3	0.22
		ABR connection	3.0	0.30	2.7	0.22
		PAB connection	3.6	0.36	3.3	0.28

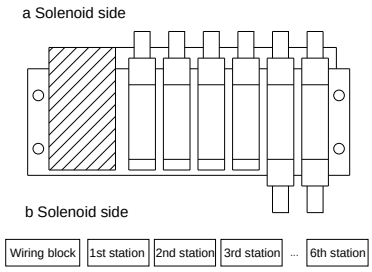
Note 1: Effective sectional area S and sonic conductance C are converted as S ≒ 5.0 × C.
Note 2: Values for the built-in check valve apply for the 2-position, two 3-port valve integrated type and A/B/R connection.

Wiring specifications

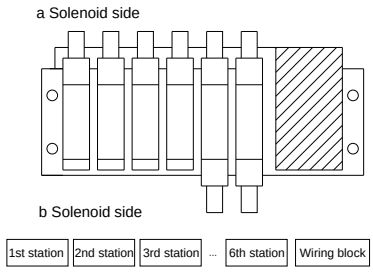
Descriptions	T10* Common gland type	T11* Common gland type	T30* D sub-connector	T50* Flat cable 20 pin type	T51* Flat cable 20 pin type	T52* Flat cable 10 pin type	T53* Flat cable 26 pin type
Connector and gland specifications	M3 thread type 16 terminals	Push-in fitting type 26 terminals	MIL standards D sub-connector 25 terminals	MIL-C-83503 standards Pressure welding socket 20 pin	MIL-C-83503 standards Pressure welding socket 20 pin	MIL-C-83503 standards Pressure welding socket 10 pin	MIL-C-83503 standards Pressure welding socket 26 pin
Maximum solenoid number	14 points	24 points	24 points	16 points	18 points	8 points	24 points
Manifold internal wiring	Refer to Pages 367 to 374 for details						

Wiring block position
Blank: Left
R : Right

Left: T*



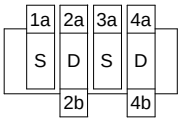
Right: T*R



Array
Blank: Standard sequential
W : Double wiring

(Example) T50*

Manifold specifications



Standard wiring (sequential): Blank

Connector pin No.	1	2	3	4	5	6
Valve solenoid No.	1a	2a	2b	3a	4a	4b

Double wiring: W

Connector pin No.	1	2	3	4	5	6	7	8
Valve solenoid No.	1a	Void	2a	2b	3a	Void	4a	4b

Ozone specifications · **Coolant proof specifications**

Can be selected with "F" option "A" in How to Order on Page 214.

Clean room specifications (Catalog No. CB-033SA)

● Dust generation preventing structure for use in cleanrooms

** -VOLTAGE- P7*

M4GB1/2/3-T* Series

Reduced wiring manifold; sub-base porting

How to order

Manifold model no.

M 4GB1 1 0 - C6 - T30 W H D - ○ - ○

3 port manifold model no.

M 3GB1 66 0 - C6 - T30 W H D - ○ - ○

Discrete valve for base installation

4GB1 1 9 — 00 — A2N H — ○

3 port discrete valve for base installation

3GB1 66 9 — 00 — A2N H — ○

- A Model no.
- B Solenoid position
- C Port size
- D Reduced wiring
  Zener diode is used for surge suppressor.
- E Terminal/connector pin array
- F Option
- G Mount type
- H Station number
- I Voltage

A2N indicates an A (downward) connector, with a lamp and surge suppressor, and no lead.

- ● Refer to Page 370 for the models of the cable with a D-sub connector.
- ● Refer to Page 366 for models of the cable for a flat cable connector.

Note on model no. selection

Note 1: Select M4GB*80 when mixing with the 4, 5 port valves.
Select M3GB*80 when mixing with the masking plate.

Note 2: Combination with the external pilot (K) is not available.
The dimension drawings are the same dimensions as each 2-position double solenoid.

Note 3: CL* push-in joint L (upward) is used only for the single solenoid manifold. The A port is a long elbow and the B port a short elbow.

Note 4: A/B port sizes do not differ for push-in joint L (upward). If an "X" plug is designated for the A or B port, the other port will be a short elbow.

Note 5: Blank ... Wired based on the type of valve used.
W ... All wired for the double solenoid regardless of the type of valve used.

Note 6: The check valve specifications (H) are not available for the 3-position all port closed or P/A/B connection. Refer to Page 382 for details on the check valve.

Note 7: Consult CKD for details on using vacuum with the external pilot (K).

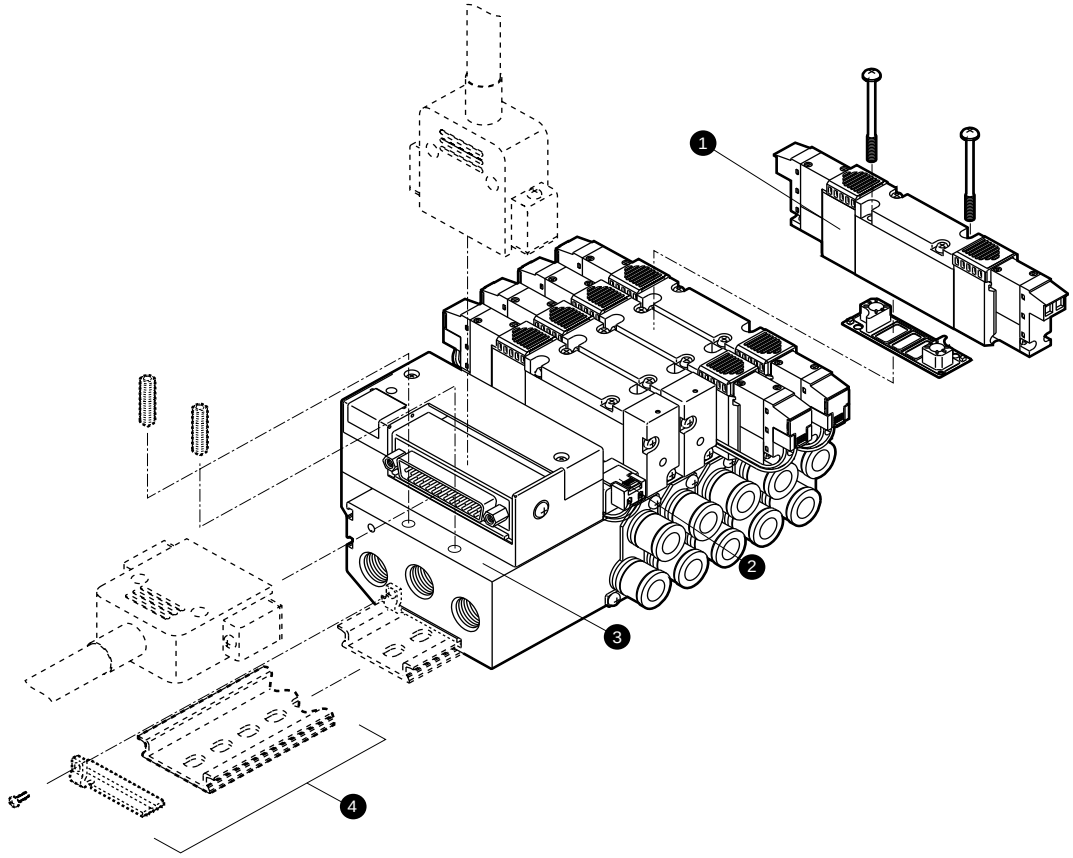
Note 8: Specify the spacer mounting location and quantity in manifold specifications.
Refer to Pages 234 to 236 for details.

* Complete manifold specification sheet (Pages 242 to 253).

Symbol	Descriptions		A Model no. 3GB1	3GB2	4GB1	4GB2	4GB3
B Solenoid position							
1	2-position single solenoid				●	●	●
2	2-position double solenoid				●	●	●
3	3-position all ports closed				●	●	●
4	3-position A/B/R connection				●	●	●
5	3-position P/A/B connection				●	●	●
66	Two 3 port valve integrated type Note 1, 2	A side valve: normally closed B side valve: normally closed	●	●			
8	Mix manifold		●	●	●	●	●
C Port size							
Port	A/B port		P/R1/R2 port (2)= Rc1/8 (3)= Rc1/4 (4)= Rc3/8				
C4	ø4 push-in joint		(2)	(3)	(2)	(3)	
C6	ø6 push-in joint		(2)	(3)	(2)	(3)	(4)
C8	ø8 push-in joint			(3)		(3)	(4)
C10	ø10 push-in joint						(4)
CL4	ø4 push-in joint L type (upward)	Note 3, 4			(2)		
CL6	ø6 push-in joint L type (upward)	Note 3, 4			(2)	(3)	
CL8	ø8 push-in joint L type (upward)	Note 3, 4				(3)	(4)
CL10	ø10 push-in joint L type (upward)	Note 3, 4					(4)
CX	Push-in joint mix		(2)	(3)	(2)	(3)	(4)
M5	M5		(2)		(2)		
06	Rc1/8			(3)		(3)	
08	Rc1/4						(4)
D Reduced wiring (light, surge suppressor provided as standard)							
T10	Common gland (M3 screw)	Left	●	●	●	●	●
T10R		Right	●	●	●	●	●
T11	Common gland (push-in fitting)	Left	●	●	●	●	●
T11R		Right	●	●	●	●	●
T30	D sub-connector	Left	●	●	●	●	●
T30R		Right	●	●	●	●	●
T50	20 pin flat cable connector (with power supply terminal)	Left	●	●	●	●	●
T50R		Right	●	●	●	●	●
T51	20 pin flat cable connector (without power supply terminal)	Left	●	●	●	●	●
T51R		Right	●	●	●	●	●
T52	10 pin flat cable connector (without power supply terminal)	Left	●	●	●	●	●
T52R		Right	●	●	●	●	●
T53	26 pin flat cable connector (without power supply terminal)	Left	●	●	●	●	●
T53R		Right	●	●	●	●	●
E Terminal/connector pin array							
Blank	Standard wiring	Note 5	●	●	●	●	●
W	Double wiring	Note 5	●	●	●	●	●
F Option							
Blank	None		●	●	●	●	●
H	With check valve	Note 6	●	●	●	●	●
K	External pilot	Note 7			●	●	●
A	Ozone/coolant proof		●	●	●	●	●
F	A/B port filter integrated (P port: provided as standard)		●	●	●	●	●
Z1	Individual air supplying spacer	Note 8	●	●	●	●	●
Z2	In stop valve spacer	Note 8		●		●	●
G Mount type							
Blank	Direct mount type		●	●	●	●	●
D	DIN rail mount type		●	●	●	●	●
H Station number							
2	2 stations		●	●	●	●	●
to	to						
20	Refer to Page 212 for maximum station number.						
I Voltage							
3	24 VDC		●	●	●	●	●
4	12 VDC		●	●	●	●	●

is not available.

Explanation of manifold components and parts list



Main parts list

No.	Component name		Model no.	Descriptions	Remarks
1	Discrete valve for base installation		4GB**9-00-A2N [Option] - [Voltage] [Solenoid position] [Flow rate]	Discrete valve Gasket Two set screws Two PR check valves	Refer to Page 214 for details.
2	Masking plate	3G1/4G1	4G1-MP	Masking plate Gasket Two set screws	* 3G2/4G2 and 3G3/4G3 have two PR check valves.
		3G2/4G2	4G2-MP		
		3G3/4G3	4G3-MP		
3	Manifold base assembly		M4GB*- [Port size] - [Reduced wiring connection] [Option] - [Station no.] [Flow rate]	Manifold base Wiring block	
4	DIN rail kit				Refer to Page 77 for details.

Repair parts and related parts list

No.	Part name	Model no.
-	Coil assembly	4G-A2N-*-COIL- [VOLTAGE] Blank: Standard A: Ozone proof
-	A-connector socket assembly Refer to Page 384 for details	[Flow rate] 4G*-SOCKET-ASSY-A**- [Manifold No.] Blank: Left, R: Right a: aSOL, b: bSOL n: Designate the location of the connected valve
-	Silencer	M5: SLM-M5
		Rc1/8: SLW-6A, SLW-6S
		Rc1/4: SLW-8A, SLW-8S
		Rc3/8: SLW-10A, SLW-10L

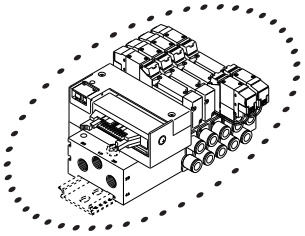
No.	Part name			Model no.
-	Cartridge type push-in joint and related parts	4G1	ø4 straight	4G1-JOINT-C4
			ø6 straight	4G1-JOINT-C6
			ø4 L type	4G1-JOINT-CL4, CLL4
			ø6 L type	4G1-JOINT-CL6, CLL6
			Plug cartridge	4G1-JOINT-CPG
		4G2	ø4 straight	4G2-JOINT-C4
			ø6 straight	4G2-JOINT-C6
			ø8 straight	4G2-JOINT-C8
			ø6 L type	4G2-JOINT-CL6, CLL6
			ø8 L type	4G2-JOINT-CL8, CLL8
			Plug cartridge	4G2-JOINT-CPG
		4G3	ø6 straight	4G3-JOINT-C6
			ø8 straight	4G3-JOINT-C8
			ø10 straight	4G3-JOINT-C10
			ø8 L type	4G3-JOINT-CL8, CLL8
			ø10 L type	4G3-JOINT-CL10, CLL10
			Plug cartridge	4G3-JOINT-CPG

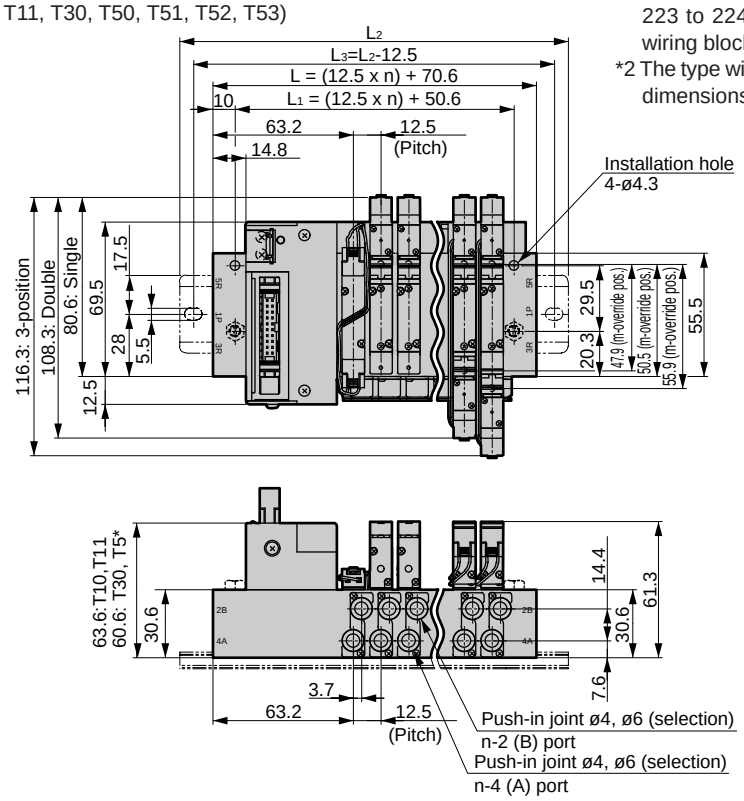
Dimensions CAD

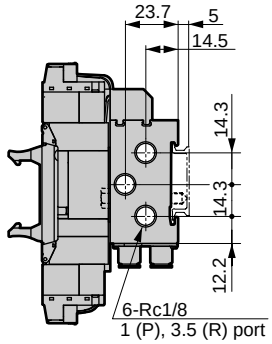
M4GB1

*1 The drawing shows the T50. Refer to Pages 223 to 224 for detailed dimensions of the wiring block.
*2 The type with two 3 port valves has the same dimensions as the double type.

● Reduced wiring left type (T10, T11, T30, T50, T51, T52, T53)

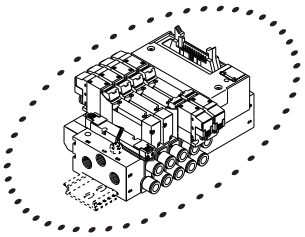


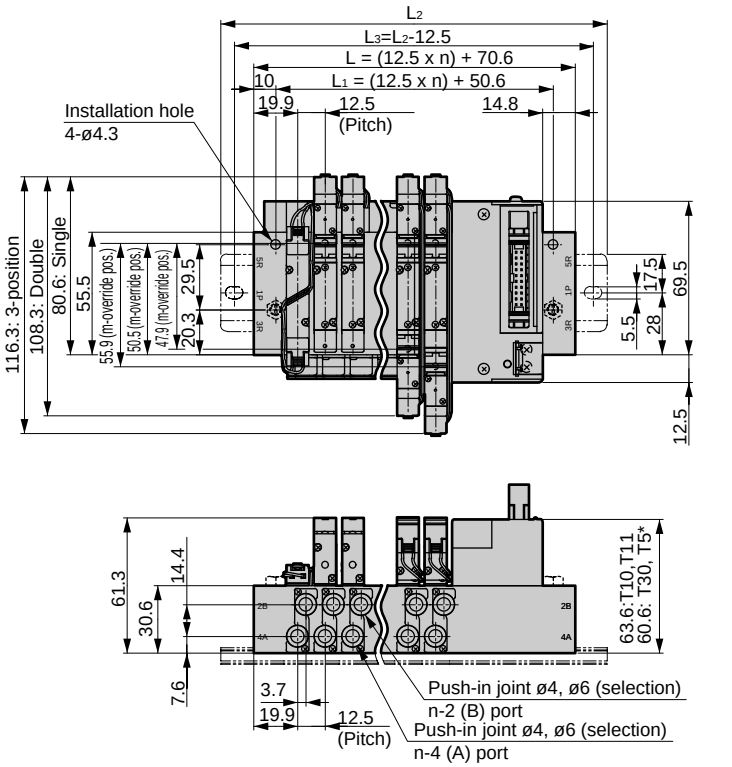


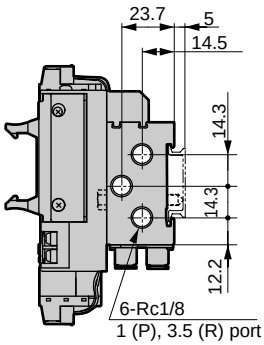


Note: Refer to Page 222 for details on CL* push-in joint L (upward).

● Reduced wiring right type (T10R, T11R, T30R, T50R, T51R, T52R, T53R)







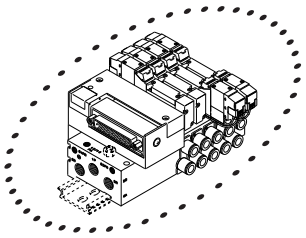
Sta. no.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L	95.6	108.1	120.6	133.1	145.6	158.1	170.6	183.1	195.6	208.1	220.6	233.1	245.6	258.1	270.6	283.1	295.6	308.1	320.6
L_1	75.6	88.1	100.6	113.1	125.6	138.1	150.6	163.1	175.6	188.1	200.6	213.1	225.6	238.1	250.6	263.1	275.6	288.1	300.6
L_2	137.5	150.0	162.5	175.0	187.5	200.0	212.5	225.0	237.5	250.0	262.5	275.0	287.5	300.0	312.5				
L_3	125.0	137.5	150.0	162.5	175.0	187.5	200.0	212.5	225.0	237.5	250.0	262.5	275.0	287.5	300.0				

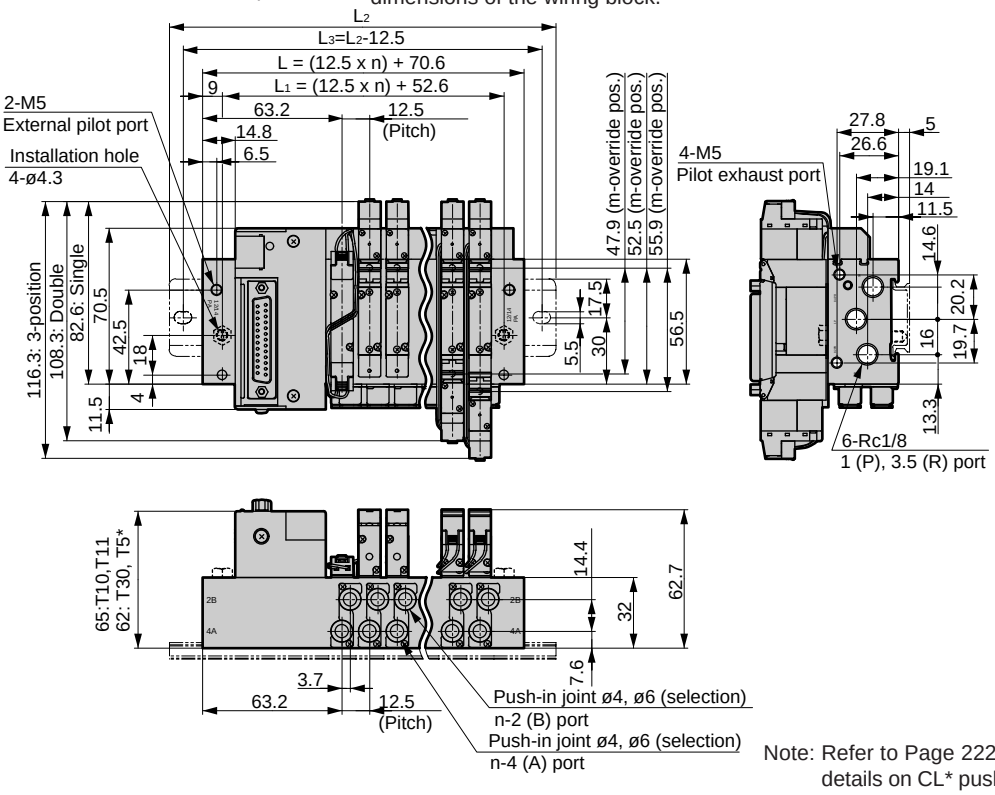
Dimensions

M4GB1

* The drawing shows the T30. Refer to Pages 223 to 224 for detailed dimensions of the wiring block.

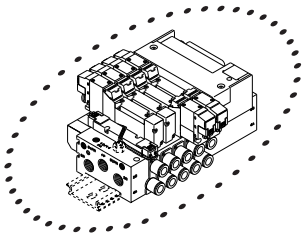
● Reduced wiring left type (T10, T11, T30, T50, T51, T52, T53)
External pilot (K)

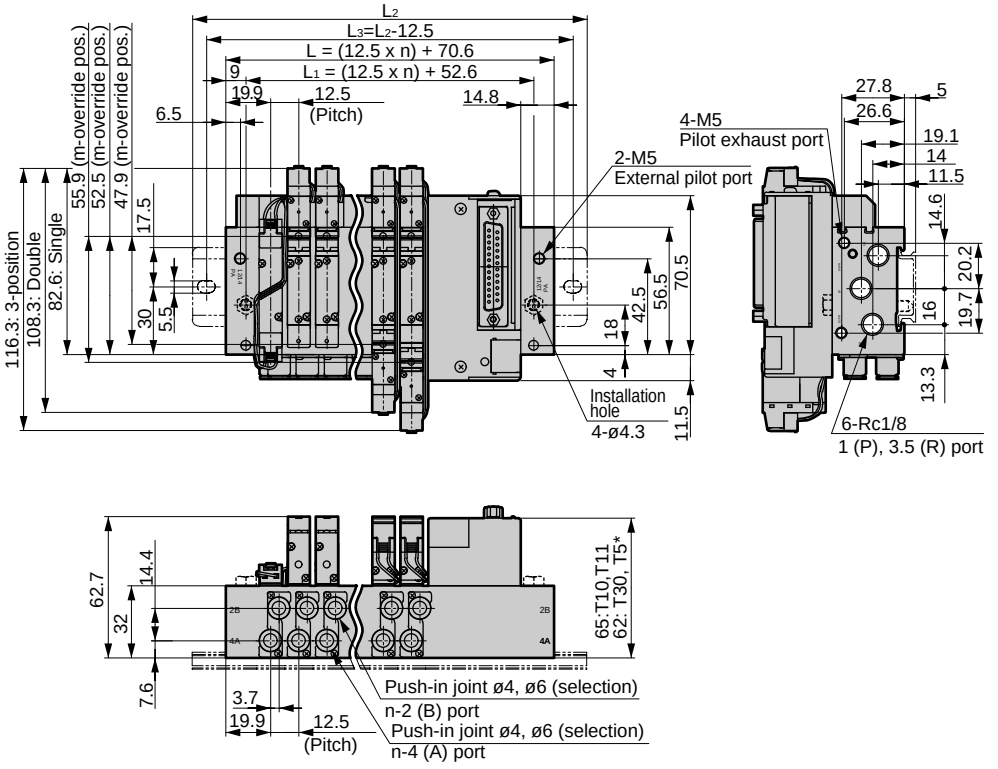




Note: Refer to Page 222 for details on CL* push-in joint L (upward).

● Reduced wiring right type (T10R, T11R, T30R, T50R, T51R, T52R, T53R)
External pilot (K)





Sta. no.	2	3	4	5	6	7	8	9	10	11	12
L	95.6	108.1	120.6	133.1	145.6	158.1	170.6	183.1	195.6	208.1	220.6
L_1	77.6	90.1	102.6	115.1	127.6	140.1	152.6	165.1	177.6	190.1	202.6
L_2	137.5	150.0	162.5	175.0	187.5	200.0	212.5	225.0	237.5	250.0	262.5
L_3	125.0	137.5	150.0	162.5	175.0	187.5	200.0	212.5	225.0	237.5	250.0

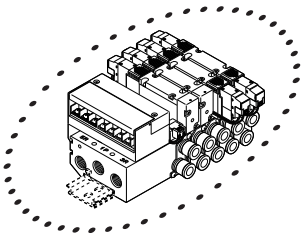
Dimensions

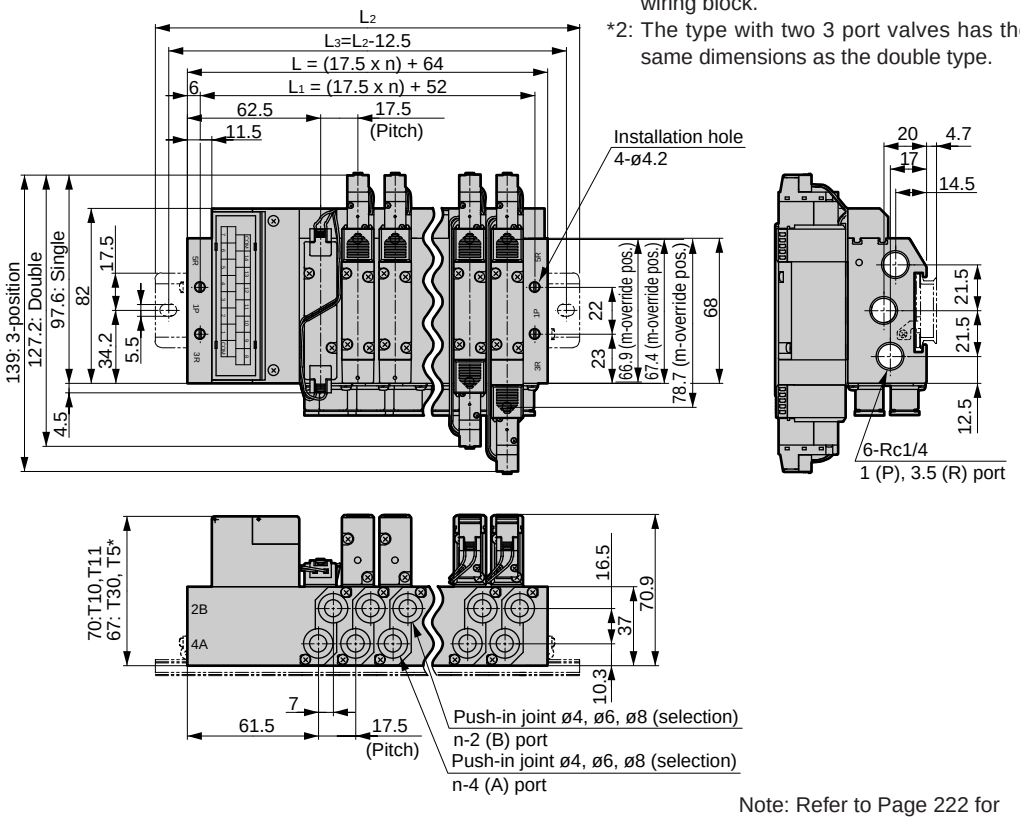
M4GB2

*1: The drawing shows the T10. Refer to Pages 223 to 224 for detailed dimensions of the wiring block.

*2: The type with two 3 port valves has the same dimensions as the double type.

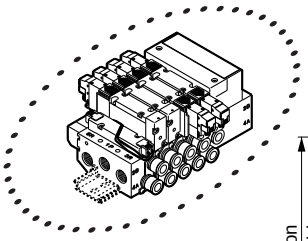
● Reduced wiring left type (T10, T11, T30, T50, T51, T52, T53)

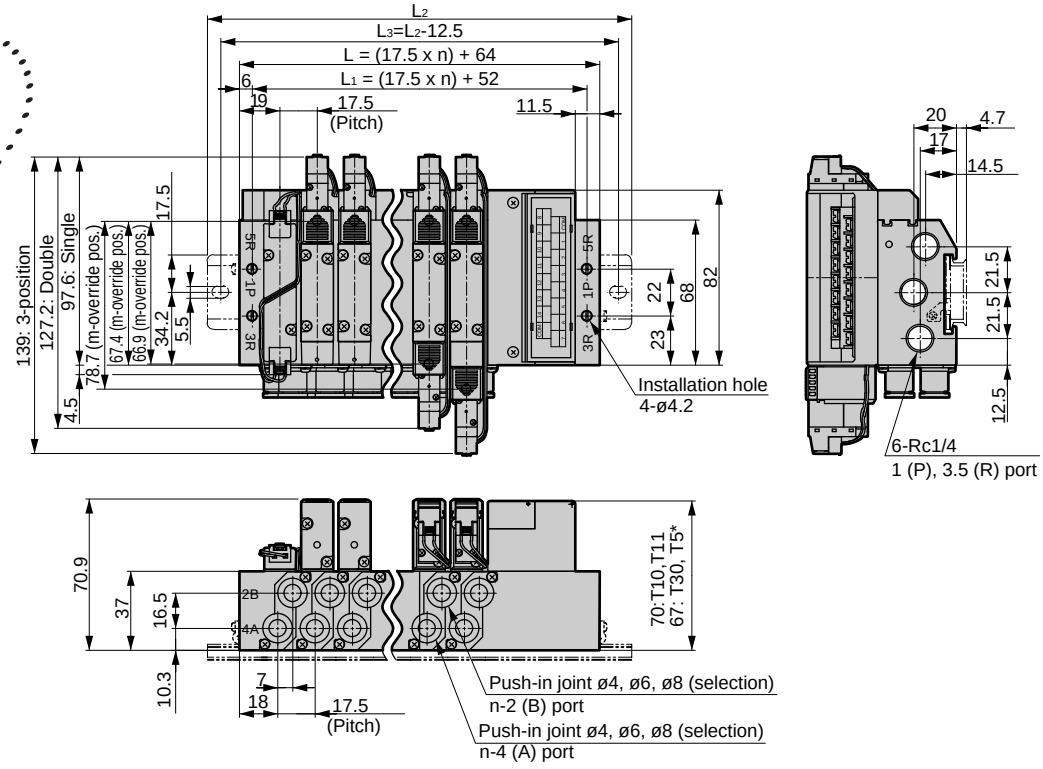




Note: Refer to Page 222 for details on CL* push-in joint L (upward).

● Reduced wiring right type (T10R, T11R, T30R, T50R, T51R, T52R, T53R)





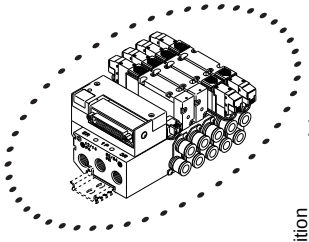
Sta. no.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L	99.0	116.5	134.0	151.5	169.0	186.5	204.0	221.5	239.0	256.5	274.0	291.5	309.0	326.5	344.0	361.5	379.0	396.5	414.0
L_1	87.0	104.5	122.0	139.5	157.0	174.5	192.0	209.5	227.0	244.5	262.0	279.5	297.0	314.5	332.0	349.5	367.0	384.5	402.0
L_2	150.0	162.5	175.0	200.0	212.5	237.5	250.0	262.5	287.5	300.0	325.0	337.5	350.0	375.0	387.5				
L_3	137.5	150.0	162.5	187.5	200.0	225.0	237.0	250.0	275.0	287.5	312.5	325.0	337.5	362.5	375.0				

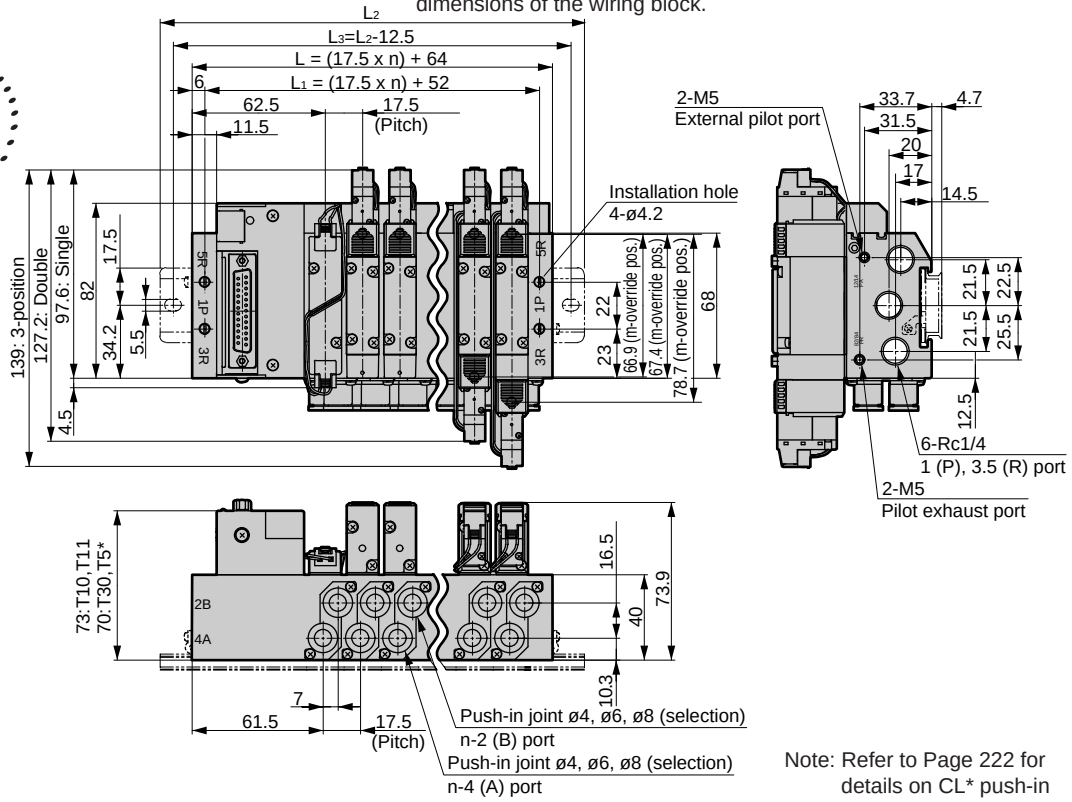
Dimensions

M4GB2

● Reduced wiring left type (T10, T11, T30, T50, T51, T52, T53)
External pilot (K)

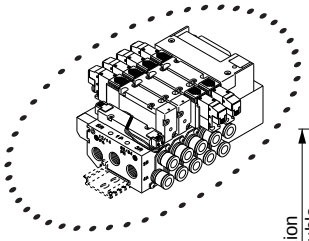
* The drawing shows the T30. Refer to Pages 223 to 224 for detailed dimensions of the wiring block.

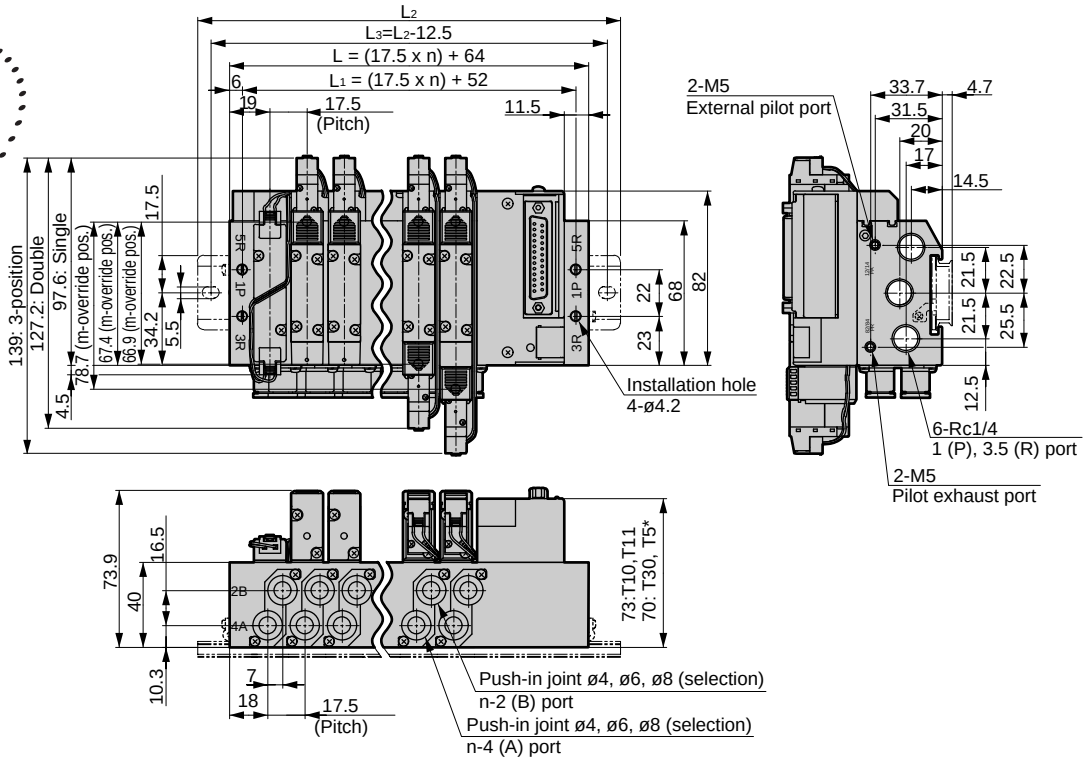




Note: Refer to Page 222 for details on CL* push-in joint L (upward).

● Reduced wiring right type (T10R, T11R, T30R, T50R, T51R, T52R, T53R)
External pilot (K)





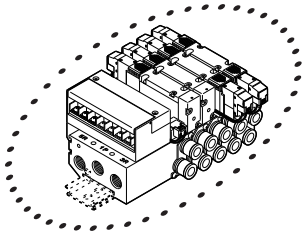
Sta. no.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
L	99.0	116.5	134.0	151.5	169.0	186.5	204.0	221.5	239.0	256.5	274.0	291.5	309.0	326.5	344.0	361.5	379.0	396.5	414.0
L_1	87.0	104.5	122.0	139.5	157.0	174.5	192.0	209.5	227.0	244.5	262.0	279.5	297.0	314.5	332.0	349.5	367.0	384.5	402.0
L_2	150.0	162.5	175.0	200.0	212.5	237.5	250.0	262.5	287.5	300.0	325.0	337.5	350.0	375.0	387.5				
L_3	137.5	150.0	162.5	187.5	200.0	225.0	237.5	250.0	275.0	287.5	312.5	325.0	337.5	362.5	375.0				

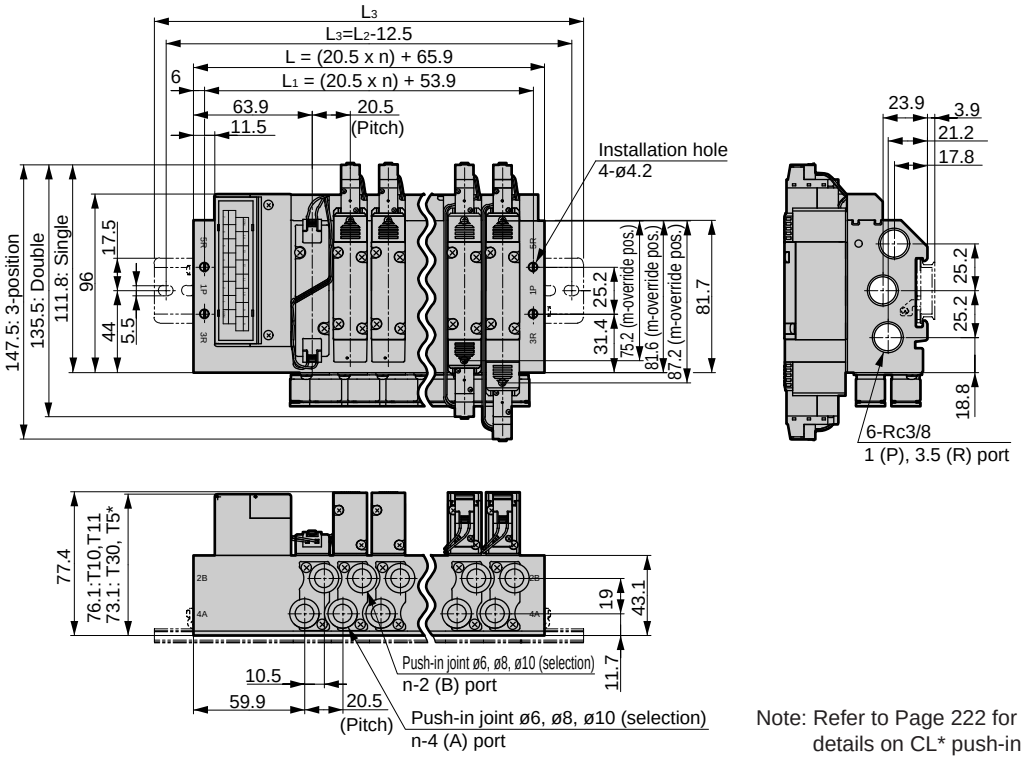
Dimensions

M4GB3

● Reduced wiring left type (T10, T11, T30, T50, T51, T52, T53)

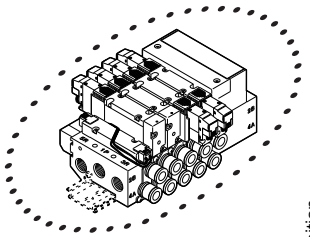
* The drawing shows the T10. Refer to Pages 223 to 224 for detailed dimensions of the wiring block.

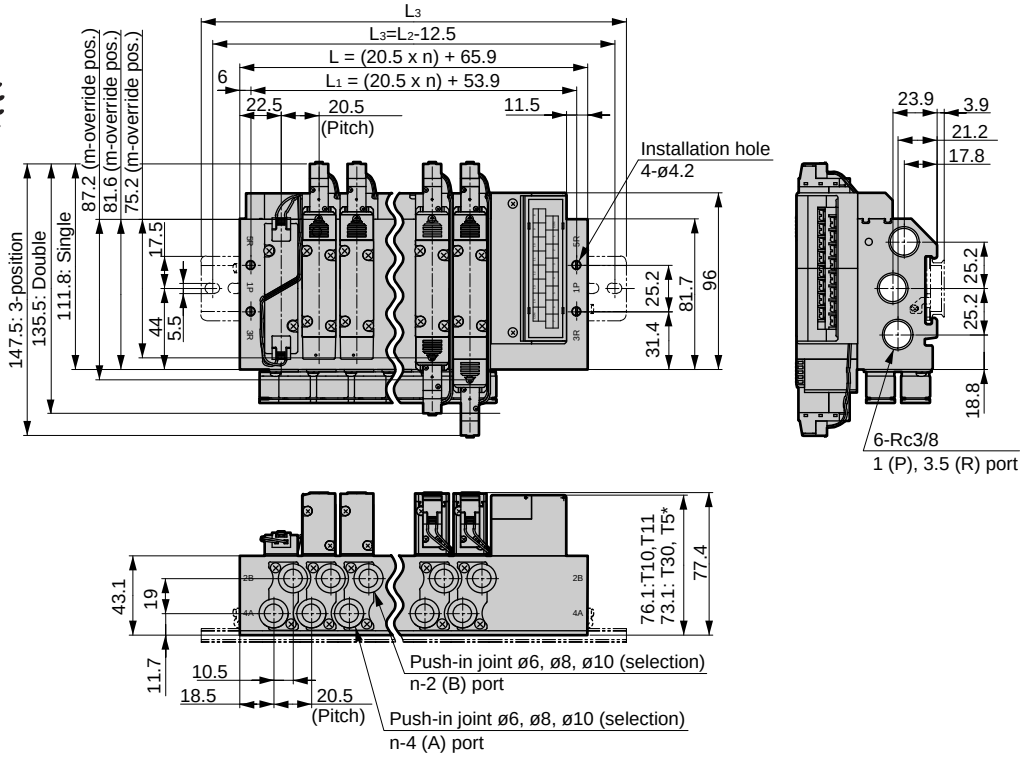




Note: Refer to Page 222 for details on CL* push-in joint L (upward).

● Reduced wiring right type (T10R, T11R, T30R, T50R, T51R, T52R, T53R)





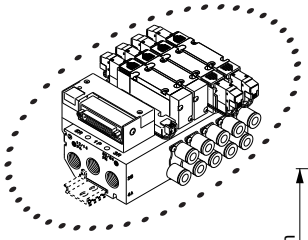
Sta. no.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L	106.9	127.4	147.9	168.4	188.9	209.4	229.9	250.4	270.9	291.4	311.9	332.4	352.9	373.4	393.9
L_1	94.9	115.4	135.9	156.4	176.9	197.4	217.9	238.4	258.9	279.4	299.9	320.4	340.9	361.4	381.9
L_2	150.0	175.0	187.5	212.5	237.5	250.0	275.0	300.0	312.5	337.5	362.5	375.0	400.0	412.5	437.5
L_3	137.5	162.5	175.0	200.0	225.0	237.5	262.5	287.5	300.0	325.0	350.0	362.5	387.5	400.0	425.0

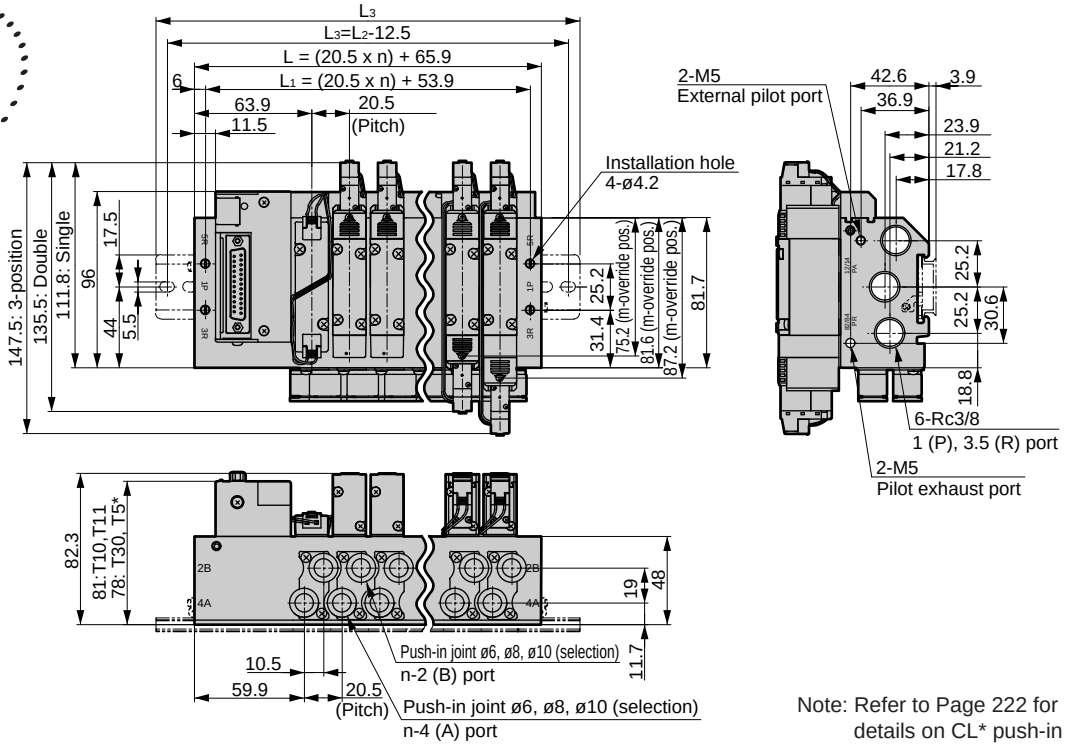
Dimensions CAD

M4GB3

* The drawing shows the T30. Refer to Pages 223 to 224 for detailed dimensions of the wiring block.

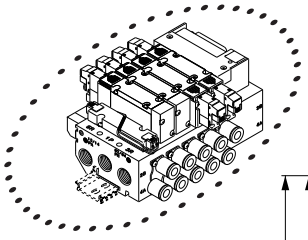
● Reduced wiring left type (T10, T11, T30, T50, T51, T52, T53)
External pilot (K)

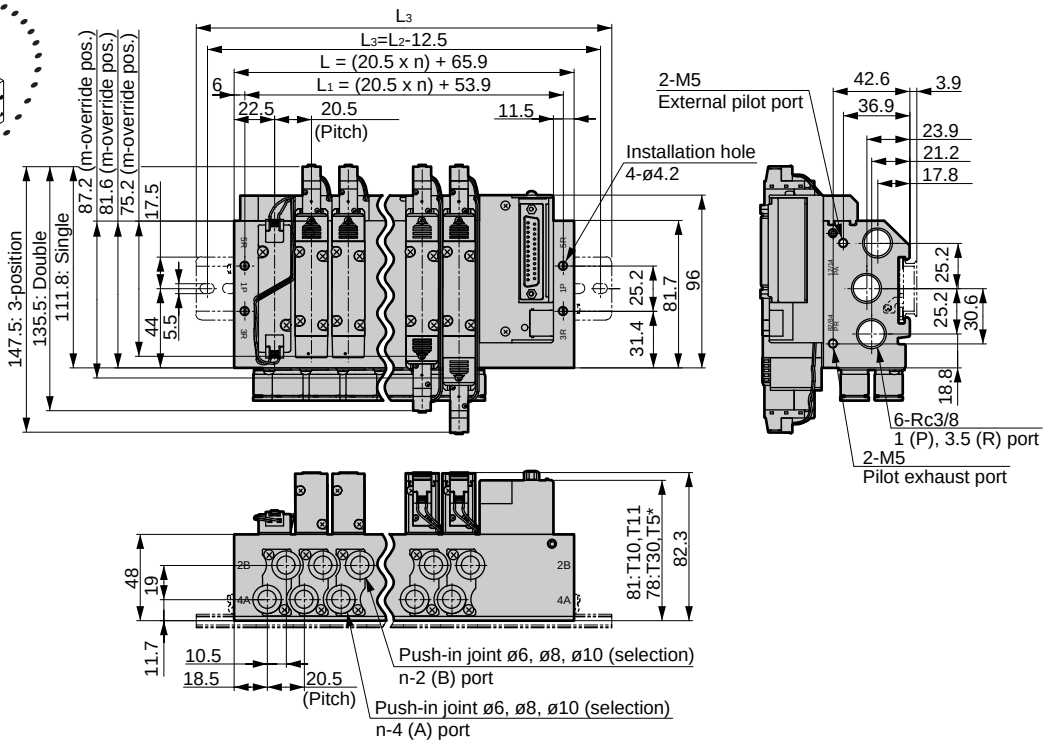




Note: Refer to Page 222 for details on CL* push-in joint L (upward).

● Reduced wiring right type (T10R, T11R, T30R, T50R, T51R, T52R, T53R)
External pilot (K)



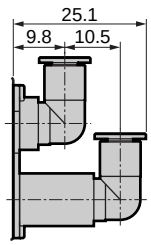


Sta. no.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L	106.9	127.4	147.9	168.4	188.9	209.4	229.9	250.4	270.9	291.4	311.9	332.4	352.9	373.4	393.9
L_1	94.9	115.4	135.9	156.4	176.9	197.4	217.9	238.4	258.9	279.4	299.9	320.4	340.9	361.4	381.9
L_2	150.0	175.0	200.0	212.5	237.5	250.0	275.0	300.0	312.5	337.5	362.5	375.0	400.0	425.0	437.5
L_3	137.5	162.5	187.5	200.0	225.0	237.5	262.5	287.5	300.0	325.0	350.0	362.5	387.5	412.5	425.0

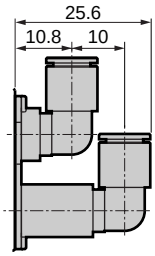
Dimensions (push-in joint L type (upward))

M4GB1

● ø4 (CL4)

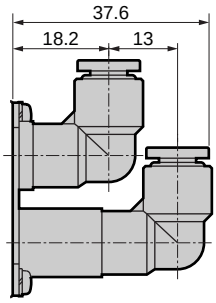


● ø6 (CL6)

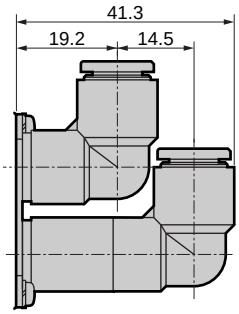


M4GB2

● ø6 (CL6)

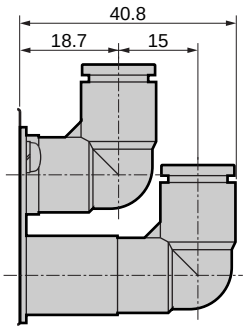


● ø8 (CL8)

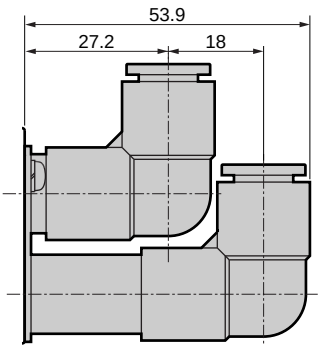


M4GB3

● ø8 (CL8)

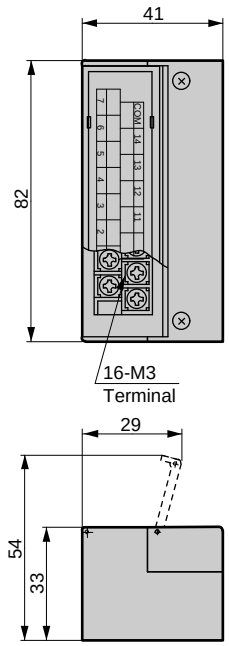


● ø10 (CL10)

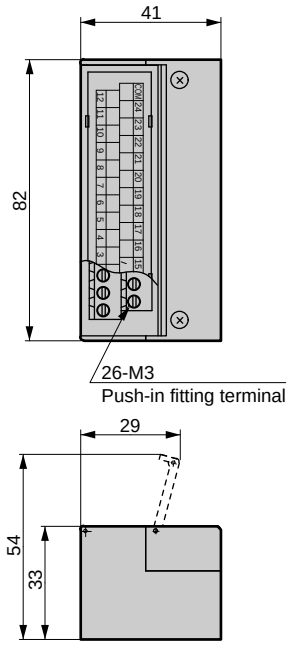


Reduced wiring section: dimensions

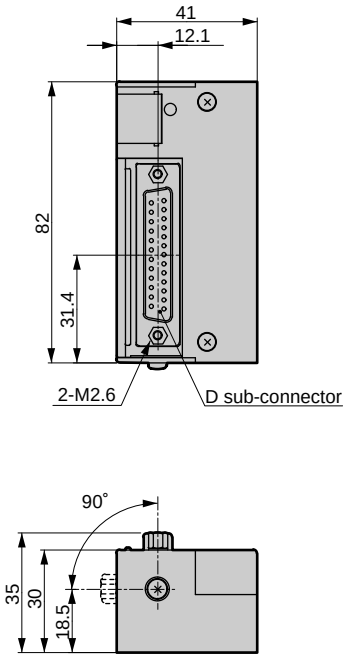
● Common gland (M3 screw)
T10



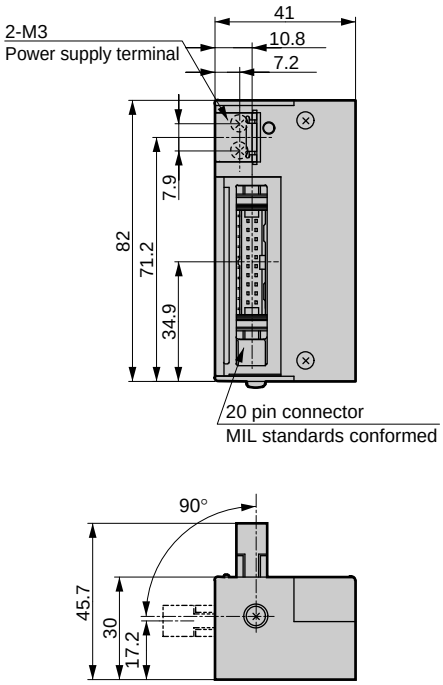
● Common gland (push-in fitting)
T11



● D sub-connector
T30

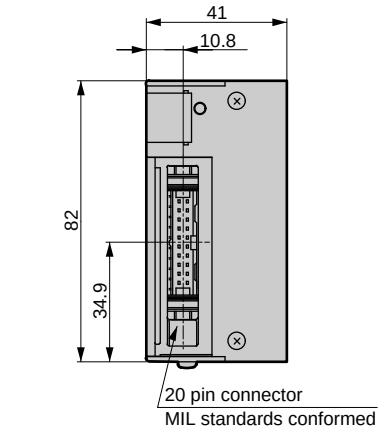


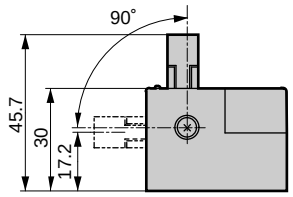
● 20 pin flat cable connector (with power supply terminal)
T50



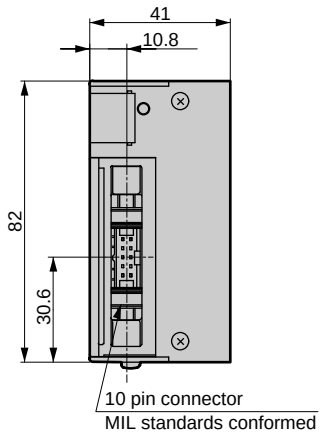
Reduced wiring section: dimensions

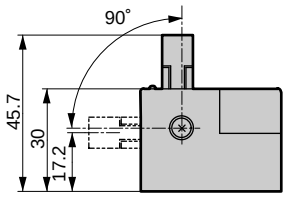
● 20 pin flat cable connector (without power supply terminal)
T51



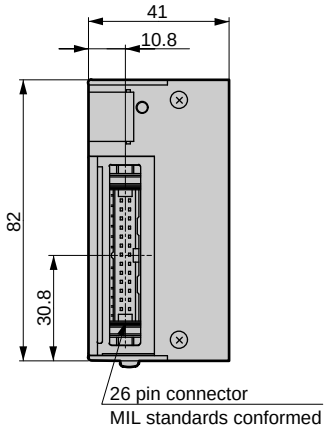


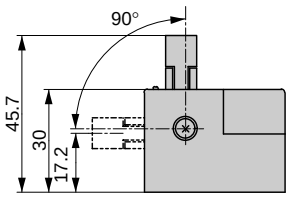
● 10 pin flat cable connector (without power supply terminal)
T52



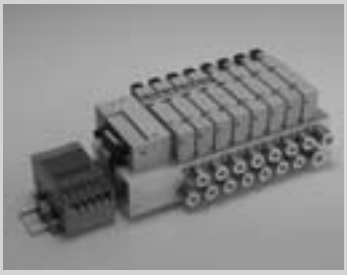


● 26 pin flat cable connector (without power supply terminal)
T53





MEMO



Reduced wiring manifold (serial transmission)
Sub-base porting
DIN rail mount type

M3GB1/2-T6D Series
M4GB1/2/3-T6D Series

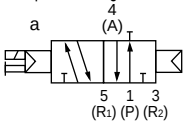
● Applicable cylinder bore size: ø20 to ø100

RoHS CAD

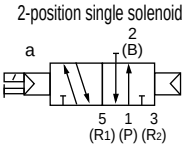
JIS symbol

● 3 port valve

2-position single solenoid N.C. type

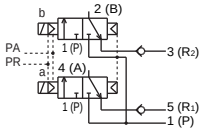


2-position single solenoid N.O. type



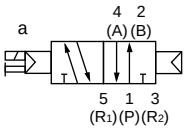
● Two 3 port valve integrated type

(A side valve: N.C. type, B side valve: N.C. type)

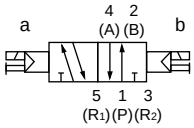


● 5 port valve

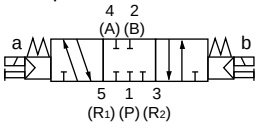
2-position single solenoid



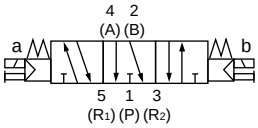
2-position double solenoid



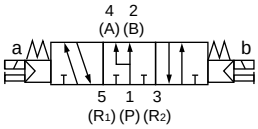
3-position all ports closed



3-position A/B/R connection



3-position P/A/B connection



Manifold common specifications

Descriptions		
Manifold type		Serial transmission integrated base
Installation method		DIN rail installation
Air supply and exhaust method		Common supply / common exhaust (Check valve integrated)
Pilot exhaust method	Internal pilot	Main valve / pilot operated valve common exhaust (Pilot exhaust check valve integrated)
	External pilot	Main valve / pilot operated valve individual exhaust
Piping direction		Sub-base side porting
Type of valve and operation method		Pilot operated soft spool valve
Working fluid		Compressed air
Max. working pressure MPa		0.7
Min. working pressure MPa		0.2 (2-position, 3-position)
Withstanding pressure MPa		1.05
Ambient temperature °C		-5 to 55 (no freezing)
Fluid temperature °C		5 to 55
Manual override		Non-locking / locking common type
Lubrication Note 1		Not required
Protective structure Note 2		Dust proof
Vibration/impact m/s²		50 or less / 300 or less
Working environment		Containing corrosive gas is impermissible.

Note 1 Use the turbine oil Class 1 ISO VG32 if lubricated. Excessive or intermittent lubrication results in instable operation.

Note 2 Check that water drops or oil, etc., do not come into contact.

Note 3 The working pressure range is 0 to 0.7 MPa when the external pilot (option symbol: K) is selected. Set the external pilot pressure between 0.2 and 0.7 MPa.

Electric specifications

Descriptions		
Rated voltage V	DC	24
Rated voltage fluctuation range		±10%
Holding current A		0.025
Power consumption W		0.6
Heat proof class		B
Temperature rise °C		50
Surge suppressor		Provided as standard
Indicator		With indicator light

Individual specifications

Descriptions		M3GB1/M4GB1	M3GB2/M4GB2	M4GB3
Max. station number	Standard	16 stations	16 stations	16 stations
	External pilot	12 stations		
Maximum solenoid number		Depending on slave unit specifications and output no.		
Port size	A/B port	Push-in joint ø4, ø6 M5	Push-in joint ø4, ø6, ø8 Rc1/8	Push-in joint ø6, ø8, ø10 Rc1/4
	P/R1/R2 port	Rc1/8	Rc1/4	Rc3/8
Manifold base weight calculation formula (n: station number) g	Standard	45n+495	82n+578	126n+729
	External pilot	46n+491	90n+615	131n+753

The manifold base weight is the value for screw connections specifications with the DIN rail, wiring block and slave unit.

Flow characteristics

Model no.	Solenoid position		P → A/B		A/B → R1/R2	
			C (dm³/ (s·bar))	b	C (dm³/ (s·bar))	b
M3GB1 M4GB1	Two 3 port valve integrated type		0.86	0.35	0.67	0.23
	2-position		1.1	0.22	0.70	0.10
	3-position	All ports closed	0.98	0.22	1.0	0.11
		ABR connection	0.97	0.35	0.68	0.24
		PAB connection	1.1	0.38	0.99	0.22
M3GB2 M4GB2	Two 3 port valve integrated type		1.7	0.44	1.6	0.30
	2-position		2.4	0.34	1.7	0.31
	3-position	All ports closed	2.2	0.34	2.4	0.29
		ABR connection	2.2	0.34	1.8	0.27
		PAB connection	2.4	0.29	2.4	0.29
M4GB3	2-position		3.5	0.34	2.6	0.27
	3-position	All ports closed	3.1	0.33	3.3	0.22
		ABR connection	3.0	0.30	2.7	0.22
		PAB connection	3.6	0.36	3.3	0.28

Note 1: Effective sectional area S and sonic conductance C are converted as S ≒ 5.0 x C.
Note 2: Values for the built-in check valve apply for the 2-position, two 3 port valve integrated type and A/B/R connection.

Serial transmission slave unit specifications (Refer to Page 381 for the applicable PLC table.)

Descriptions		T6G1 Note 1	T6C0 Note 2 T6C1	T6A0 Note 3 T6A1	T6E0 T6E1	T6J0 Note 3 T6J1
Communication device maker		CC-Link	OMRON CompoBus/S	UNIWIRE SYSTEM	SUNX S-LINK	UNIWIRE H SYSTEM
Power voltage	Unit side	24 VDC ±10%		24 VDC +10% -5% (Unit power supply, valve power supply common terminal)		
	Valve side	24 VDC +10% -5%				
Current consumption	Unit side	100mA or less (when all output points ON)		100mA or less (when all output points ON) Load current is not included.		
	Valve side	15mA or less (when all output points OFF)				
Output number		16 points	T6*0: 8 points T6*1: 16 points			
Occupied number		1 station	T6C0: 1 node address (8 point mode) T6C1: 2 node address (8 point mode)	T6A0: output 8 points T6A1: output 16 points	T6E0: FAN-in: 3 T6E1: FAN-in: 3	T6J0: output 8 points T6J1: output 16 points
Operating indication		LED (power supply and communication state)				

Note 1: CC-Link is ver1.10.
Note 2: Not compatible with long-distance communication mode. Contact CKD for details on compatibility.
Note 3: Compatible with the number of transmission points, 128 points, and transmission distance, 200 m. Contact CKD for other specifications.

Ozone specifications • Coolant proof specifications

Can be selected with "F" option "A" in How to Order on Page 228.

Clean room specifications (Catalog No. CB-033SA)

● Dust generation preventing structure for use in cleanrooms

** -VOLTAGE- P7*

M4GB1/2/3-T6D Series

Reduced wiring manifold; sub-base porting; serial transmission

How to order

Manifold model no.

M 4GB1 1 0 - C6 - T6A0 W H D - ○ - ○

3 port manifold model no.

M 3GB1 66 0 - C6 - T6C0 W H D - ○ - ○

Discrete valve for base installation

4GB1 1 9 — 00 — A2N H — ○

3 port discrete valve for base installation

3GB1 66 9 — 00 — A2N H — ○

Ⓑ Solenoid position

A2N indicates an A (downward) connector, with a lamp and surge suppressor, and no lead.

Ⓐ Model no.

Ⓒ Port size

Ⓓ Serial transmission
Zener diode is used for surge suppressor.

Ⓔ Terminal/connector pin array

Ⓕ Option

Ⓖ Station number

Ⓗ Voltage

* Complete manifold specification sheet (Pages 242 to 253).

Symbol	Descriptions	Ⓐ Model no. 3GB1	3GB2	4GB1	4GB2	4GB3
Ⓑ Solenoid position						
1	2-position single solenoid			●	●	●
2	2-position double solenoid			●	●	●
3	3-position all ports closed			●	●	●
4	3-position A/B/R connection			●	●	●
5	3-position P/A/B connection			●	●	●
66	Two 3 port valve integrated type (Note 1, 2) A side valve: normally closed / B side valve: normally closed	●	●			
8	Mix manifold	●	●	●	●	●
Ⓒ Port size						
Port	A/B port	P/R1/R2 port (2)= Rc1/8 (3)= Rc1/4 (4)= Rc3/8				
C4	ø4 push-in joint	(2)	(3)	(2)	(3)	
C6	ø6 push-in joint	(2)	(3)	(2)	(3)	(4)
C8	ø8 push-in joint		(3)		(3)	(4)
C10	ø10 push-in joint					(4)
CL4	ø4 push-in joint L type (upward) Note 3, 4			(2)		
CL6	ø6 push-in joint L type (upward) Note 3, 4			(2)	(3)	
CL8	ø8 push-in joint L type (upward) Note 3, 4				(3)	(4)
CL10	ø10 push-in joint L type (upward) Note 3, 4					(4)
CX	Push-in joint mix	(2)	(3)	(2)	(3)	(4)
M5	M5	(2)		(2)		
06	Rc1/8		(3)		(3)	
08	Rc1/4					(4)
Ⓓ Serial transmission (light and surge suppressor provided as standard)						
T6A0	UNIWIRE SYSTEM 8 points	●	●	●	●	●
T6A1	UNIWIRE SYSTEM 16 points	●	●	●	●	●
T6C0	OMRON CompoBus/S 8 points	●	●	●	●	●
T6C1	OMRON CompoBus/S 16 points	●	●	●	●	●
T6E0	SUNX S-LINK 8 points	●	●	●	●	●
T6E1	SUNX S-LINK 16 points	●	●	●	●	●
T6G1	CC-Link	●	●	●	●	●
T6J0	UNIWIRE H SYSTEM 8 points	●	●	●	●	●
T6J1	UNIWIRE H SYSTEM 16 points	●	●	●	●	●
Ⓔ Terminal/connector pin array						
Blank	Standard wiring Note 5	●	●	●	●	●
W	Double wiring Note 5	●	●	●	●	●
Ⓕ Option						
Blank	None	●	●	●	●	●
H	With check valve Note 6	●	●	●	●	●
K	External pilot Note 7			●	●	●
A	Ozone/coolant proof	●	●	●	●	●
F	A/B port filter integrated (P port: provided as standard)	●	●	●	●	●
Z1	Air supply spacer Note 8	●	●	●	●	●
Z2	In stop valve spacer Note 8		●		●	●
Ⓖ Station number						
2	2 stations	●	●	●	●	●
to	to					
16	Refer to Page 226 for maximum station number.					
Ⓗ Voltage						
3	24 VDC	●	●	●	●	●

is not available.

Note on model no. selection

Note 1: Select M4GB*80 when mixing with the 4, 5 port valves.
Select M3GB*80 when mixing with the masking plate.

Note 2: Combination with the external pilot (K) is not available.
The dimensions are the same dimensions as each 2-position double solenoid.

Note 3: CL* push-in joint L (upward) is used only for the single solenoid manifold. The A port is a long elbow and the B port a short elbow.

Note 4: A/B port sizes do not differ for push-in joint L (upward). If an "X" plug is designated for the A or B port, the other port will be a short elbow.

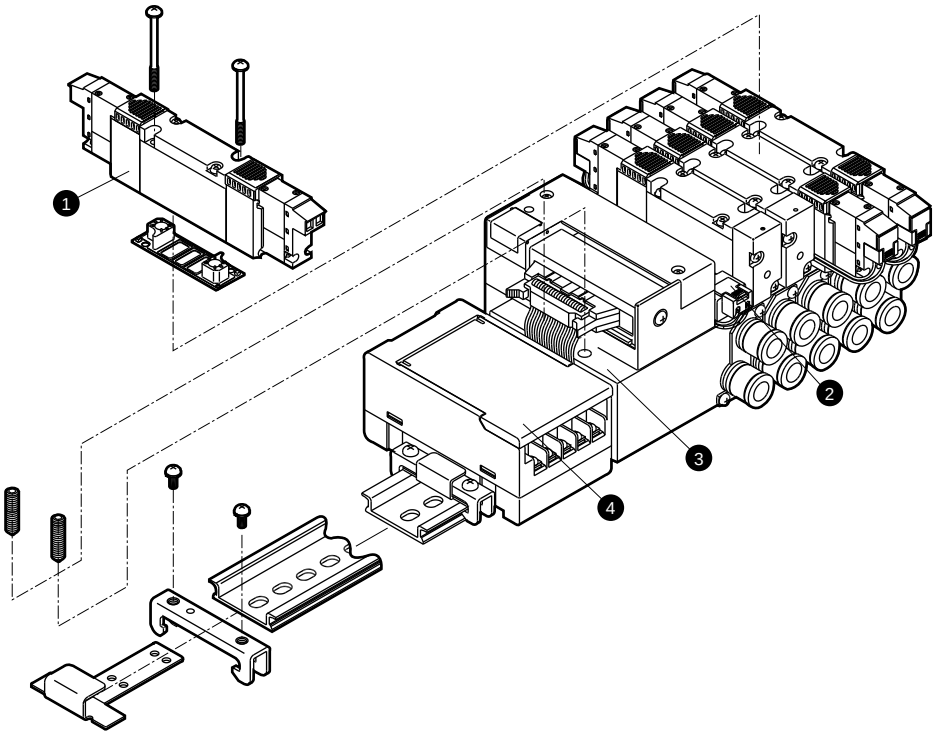
Note 5: Blank ... Wired based on the type of valve used.
W ... All wired for the double solenoid regardless of the type of valve used.

Note 6: The check valve specifications (H) are not available for the 3-position all port closed or P/A/B connection.
Refer to Page 382 for details on the check valve.

Note 7: Consult CKD for details on using vacuum with the external pilot (K).

Note 8: Specify the spacer mounting location and quantity in manifold specifications.
Refer to Pages 234 to 236 for details.

Explanation of manifold components and parts list



Main parts list

No.	Component name		Model no.	Descriptions	Remarks
1	Discrete valve for base installation		4GB**9-00-A2N [Option] - [Voltage] [Solenoid position] [Flow rate]	Discrete valve Gasket Two set screws Two PR check valves	Refer to Page 228 for details.
2	Masking plate	3G1/4G1	4G1-MP	Masking plate Gasket Two set screws	* 3G2/4G2 and 3G3/4G3 have two PR check valves.
		3G2/4G2	4G2-MP		
		3G2/4G3	4G3-MP		
3	Manifold base assembly		M4GB*- [Port size] - [T56] [Option] - [Station number] [Flow rate]	Manifold base weight Wiring block	
4	Serial transmission slave unit			OPP3	Consult with CKD.

Repair parts and related parts list

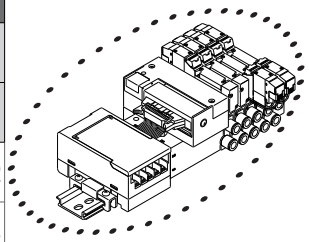
No.	Part name	Model no.
-	Coil assembly	4G-A2N-*- COIL - [Voltage] Blank: Standard A: Ozone proof
-	A-connector socket assembly Refer to Page 384 for details.	[Flow rate] 4G* -SOCKET-ASSY-A** - [Manifold No.] Blank: Left, R: Right a: aSOL, b: bSOL n: Designate the location of the connected valve
-	Silencer	M5 : SLM-M5
		Rc1/8: SLW-6A, SLW-6S
		Rc1/4: SLW-8A, SLW-8S
		Rc3/8: SLW-10A, SLW-10S
-	DIN rail kit	Refer to Page 77 for details.

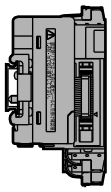
No.	Part name			Model no.
-	Cartridge type push-in joint and related parts	4G1	ø4 straight	4G1-JOINT-C4
			ø6 straight	4G1-JOINT-C6
			ø4 L type	4G1-JOINT-CL4, CLL4
			ø6 L type	4G1-JOINT-CL6, CLL6
			Plug cartridge	4G1-JOINT-CPG
		4G2	ø4 straight	4G2-JOINT-C4
			ø6 straight	4G2-JOINT-C6
			ø8 straight	4G2-JOINT-C8
			ø6 L type	4G2-JOINT-CL6, CLL6
			ø8 L type	4G2-JOINT-CL8, CLL8
			Plug cartridge	4G2-JOINT-CPG
		4G3	ø6 straight	4G3-JOINT-C6
			ø8 straight	4G3-JOINT-C8
			ø10 straight	4G3-JOINT-C10
			ø8 L type	4G3-JOINT-CL8, CLL8
			ø10 L type	4G3-JOINT-CL10, CLL10
			Plug cartridge	4G3-JOINT-CPG

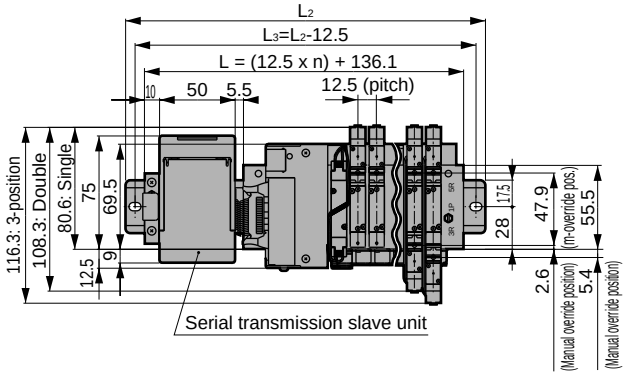
Dimensions

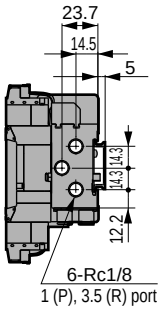
M4GB1

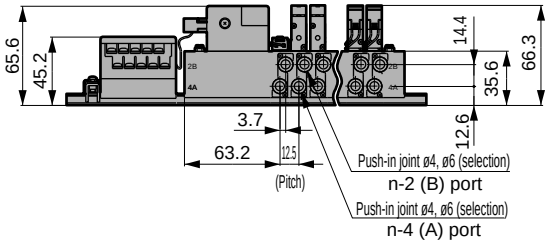
● Serial transmission (T6*)
DIN rail installation type (D)





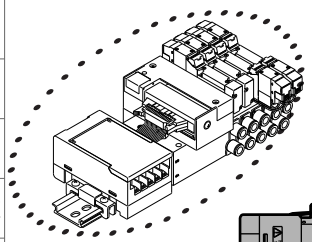


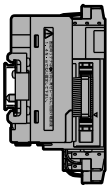


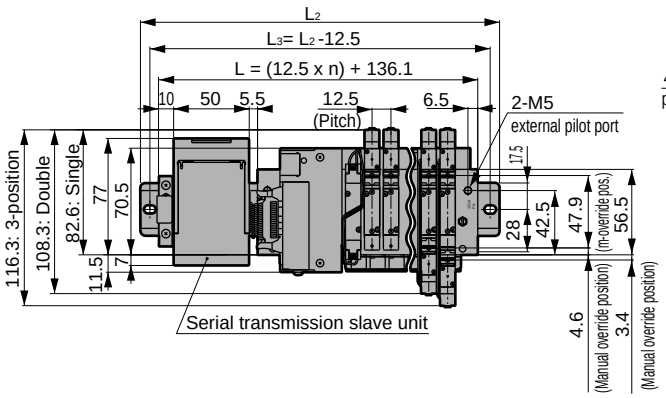


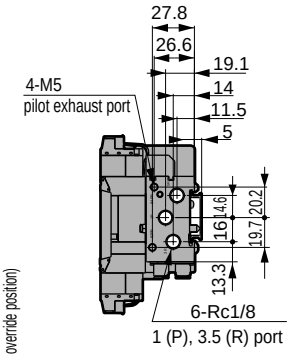
Note: Refer to Page 282 for details on CL* push-in joint L (upward).

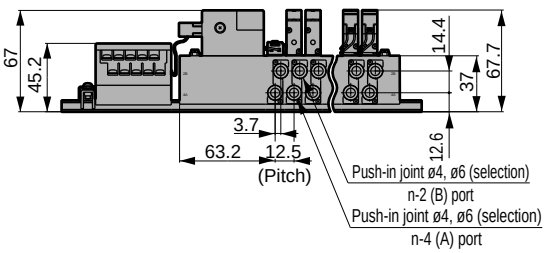
● Serial transmission (T6*)
DIN rail installation type (D); external pilot operated (K)









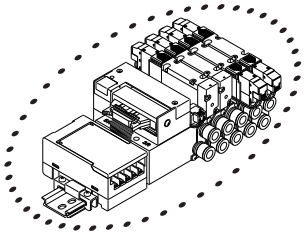


Sta. no.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L	161.1	173.6	186.1	198.6	211.1	223.6	236.1	248.6	261.1	273.6	286.1	298.6	311.1	323.6	336.1
L_2	212.5	225.0	237.5	250.0	262.5	275.0	287.5	300.0	312.5	325.0	337.5	350	362.5	375	387.5
L_3	200.0	212.5	225.0	237.5	250.0	262.5	275.0	287.5	300.0	312.5	325.0	337.5	350	362.5	375

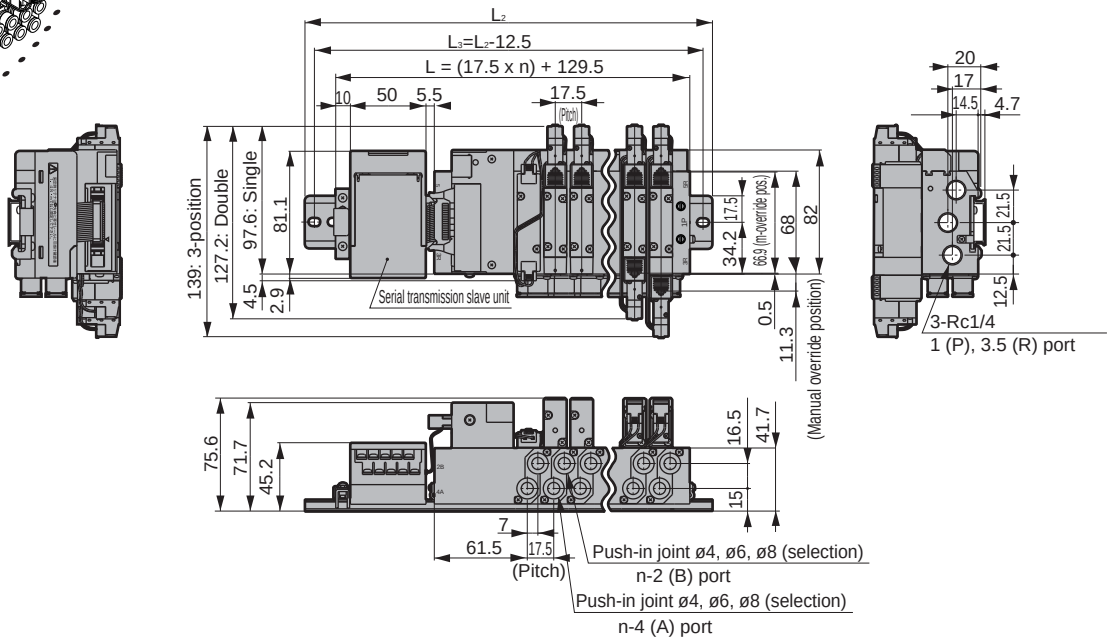
Dimensions CAD

M4GB2

● Serial transmission (T6*)
DIN rail installation type (D)

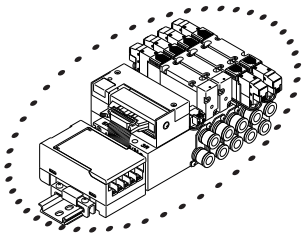


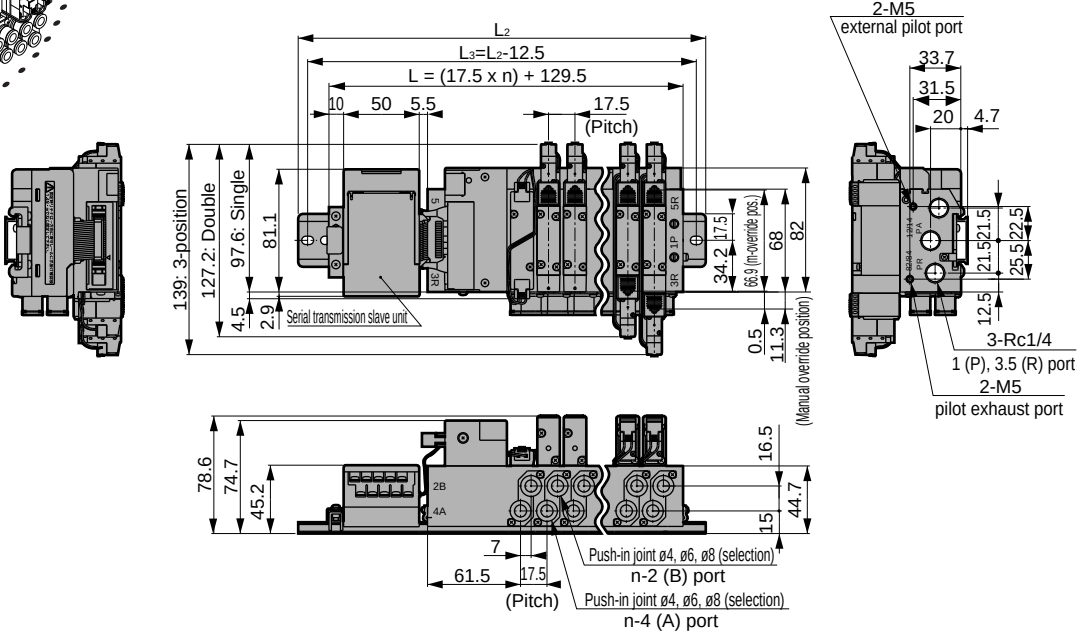
* The type with two 3 port valves has the same dimensions as the double type.



Note: Refer to Page 222 for details on CL* push-in joint L (upward).

● Serial transmission (T6*)
DIN rail installation type (D); external pilot operated (K)



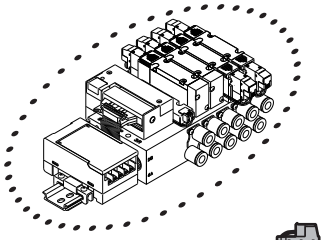


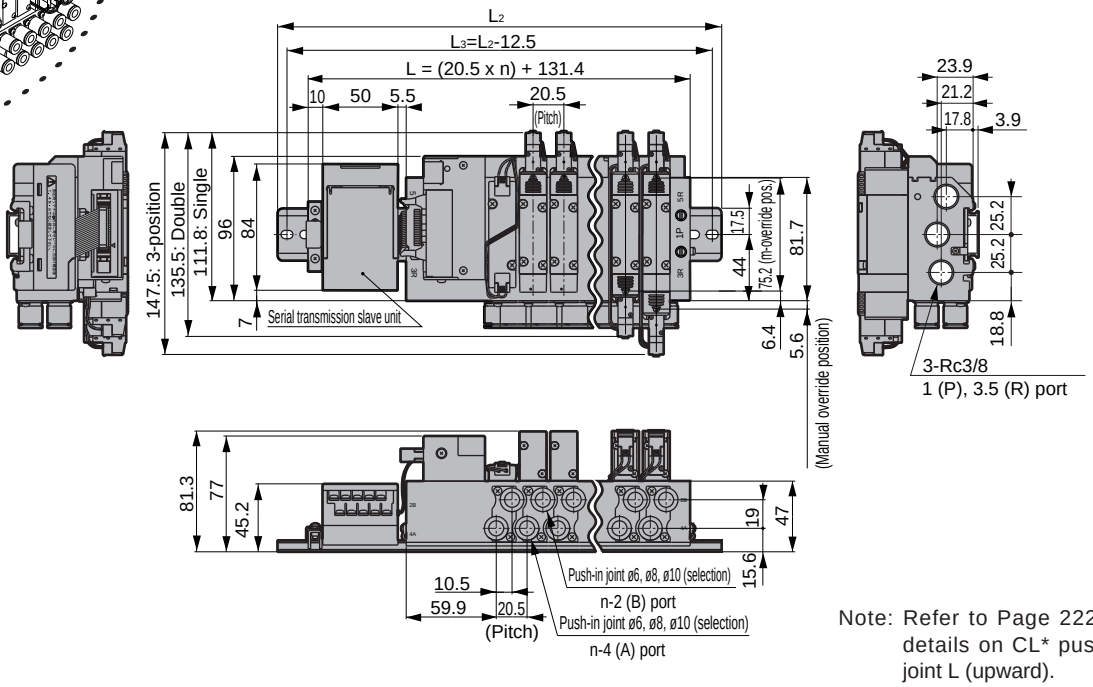
Sta. no.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L	164.5	182.0	199.5	217.0	234.5	252.0	269.5	287.0	304.5	322.0	339.5	357.0	374.5	392.0	409.5
L_2	212.5	225.0	250.0	262.5	275.0	300.0	312.5	337.5	350.0	362.5	387.5	400.0	425.0	437.5	450.0
L_3	200.0	212.5	237.5	250.0	262.5	287.5	300.0	325.0	337.5	350.0	375.0	387.5	412.5	425.0	437.5

Dimensions CAD

M4GB3

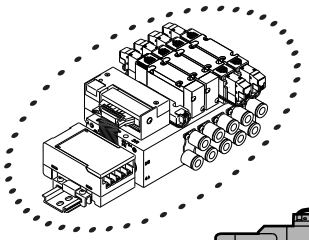
● Serial transmission (T6*)
DIN rail installation type (D)

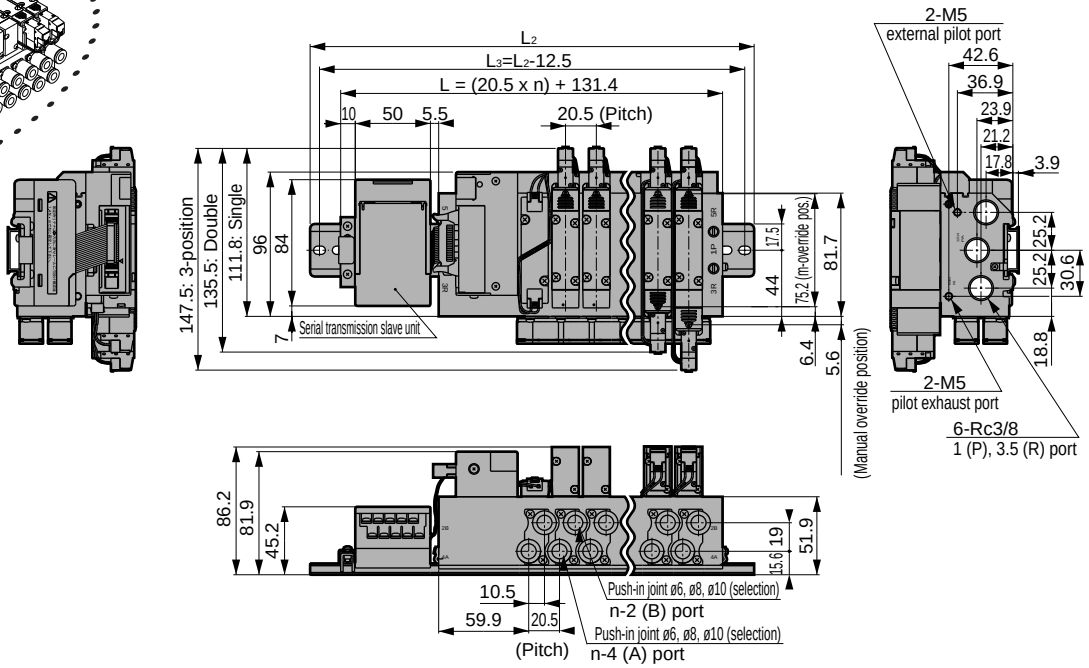




Note: Refer to Page 222 for details on CL* push-in joint L (upward).

● Serial transmission (T6*)
DIN rail installation type (D); external pilot operated (K)





Sta. no.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L	172.4	192.9	213.4	233.9	254.4	274.9	295.4	315.9	336.4	356.9	377.4	397.9	418.4	438.9	459.4
L_2	212.5	237.5	262.5	275.0	300.0	325.0	337.5	362.5	387.5	400.0	425.0	450.0	462.5	487.5	500.0
L_3	200.0	225.0	250.0	262.5	287.5	312.5	325.0	350.0	375.0	387.5	412.5	437.5	450.0	475.0	487.5

● Discrete serial transmission slave unit model no.

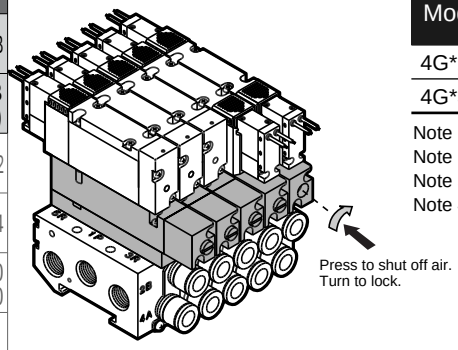
4G – **OPP3** – **0A**

Ⓐ Wiring method

Symbol	Descriptions	
Ⓐ Wiring method		
0A	T6A0	UNIWIRE SYSTEM 8 points
1A	T6A1	UNIWIRE SYSTEM 16 points
0C	T6C0	OMRON Compobus/S 8 points
1C	T6C1	OMRON Compobus/S 16 points
0E	T6E0	SUNX S-LINK 8 points
1E	T6E1	SUNX S-LINK 16 points
1G	T6G1	CC-LINK
0J	T6J0	UNIWIRE H SYSTEM 8 points
1J	T6J1	UNIWIRE H SYSTEM 16 points

Related products

● In stop valve spacer



Specifications

Model no.	P ⟶ A/B		A/B ⟶ R		Weight g
	C (dm³/ (s·bar))	b	C (dm³/ (s·bar))	b	
4G*2	1.5	0.17	1.6	0.20	63
4G*3	1.9	0.09	2.8	0.16	80

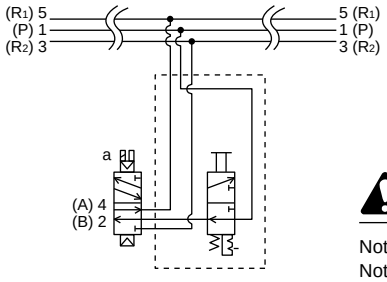
Note 1: Values when sub-base porting or 2-position valve is mounted.
Note 2: Values in parentheses apply when check valve is not mounted.
Note 3: The effective sectional area when discharging residual pressure is 1.0mm² (reference value).
Note 4: Effective sectional area S and sonic conductance C are converted as S ≒ 5.0 x C.

How to order discrete part

4G2 - IS
4G3 - IS

In stop valve spacer

JIS symbol

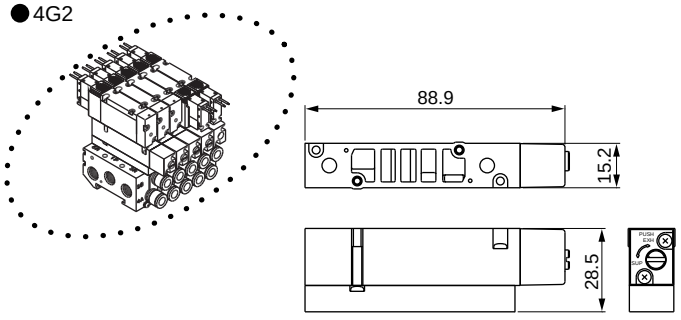


Note on model no. selection

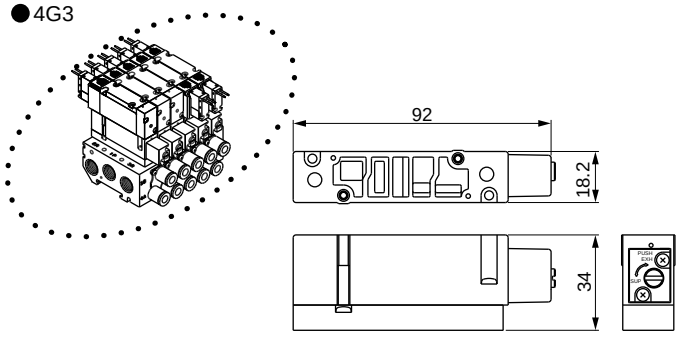
Note 1: Specify the spacer mounting location and quantity in manifold specifications.
Note 2: If the A/B port joint is an elbow, the in-stop valve spacer's operation section will face the reverse side (a solenoid side).
Note 3: When selecting the reduced wiring manifold with an elbow A/B port joint, an in-stop valve spacer cannot be used.
Note 4: The in-stop valve spacer cannot be used with the external pilot (K).
Note 5: When retrofitting onto a reduced wiring manifold, the existing wire may be too short.
Contact CKD in this case.

Dimensions

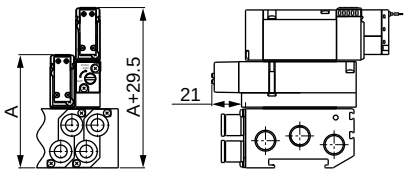
●4G2



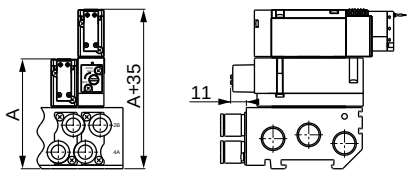
●4G3



Dimensions when installed



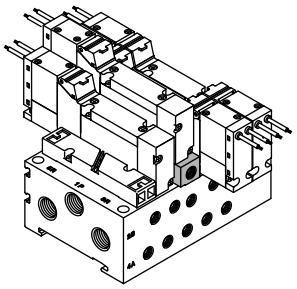
Dimensions when installed



Note: For A dimensions, refer to the dimensions for respective specifications.

Related products

● Air supply spacer



Specifications

Model no.	P ⟶ A/B		A/B ⟶ R		Weight g
	C (dm³/ (s·bar))	b	C (dm³/ (s·bar))	b	
4G1	0.70	0.23	0.93	0.16	8
4G2	1.6	0.17	1.8	0.16	35
4G3	2.6	0.22	3.1	0.14	56

Note 1: Value when valve is mounted.
Note 2: Effective sectional area S and sonic conductance C are converted as S ≒ 5.0 x C.

How to order discrete part

● Air supply spacer

Air supply spacer model no.

4G 2 - P - GWS6 A

Ⓐ Air supply spacer model no.
Ⓑ Port size Note 1
Ⓒ Set screw

Symbol	Descriptions	Valve model no. 4GA1	4GB1	4GA2	4GB2	4GA3	4GB3
Ⓐ Air supply spacer model no.							
1	4G1	●					
2	4G2			●			
3	4G3					●	
Ⓑ Port size							
Blank	M5 thread (4G1), Rc thread (4G2/4G3)	(1)		(2)		(3)	
GWS4	ø4 joint	●					
GWS6	ø6 joint	●		●			
GWS8	ø8 joint			●		●	
GWS10	ø10 joint					●	
Ⓒ Set screw							
Blank		●		●		●	
A	4GA3 A/B port: Rc1/4 thread					● Note 3	

is not available.

Accessories: 2 installation screws (Note 2), 2 PR check valves, 1 body gasket

Note on model no. selection

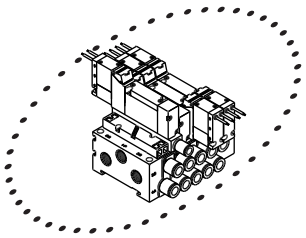
Note 1 No symbol indicates (1) M5, (2) Rc1/8, or (3) Rc1/4.
Note 2, Note 3
Designate "A" only when using the base mounting 4GA3**-08. (The valve installation screw length differs.)
Note 4 Designate the supply spacer's mounting location and quantity in individual catalog manifold specifications.
Note 5 If the A/B port joint is an elbow, the supply spacer's operation section will face the reverse side (a solenoid side).
Note 6 When selecting a reduced wiring manifold with an elbow A/B port joint, the supply spacer cannot be used.
Note 7 Not compatible for use with the masking plate.

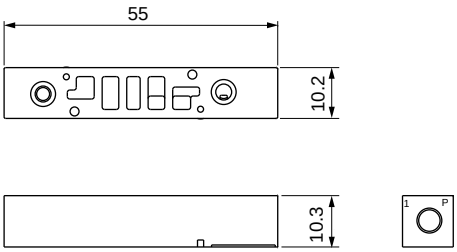
Related products

● Air supply spacer

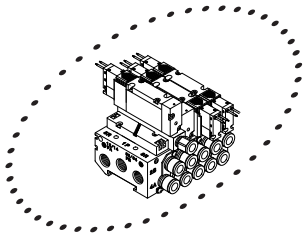
Dimensions

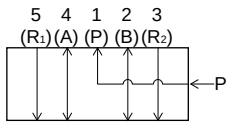
● 4G1

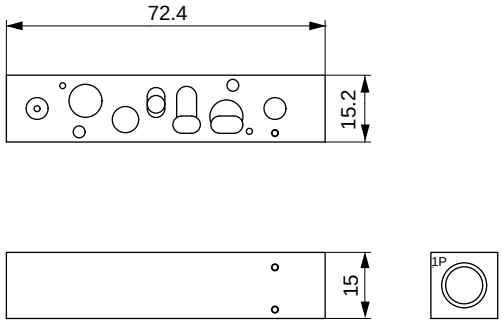




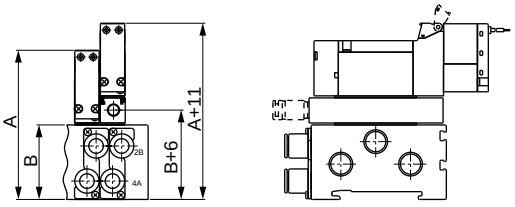
● 4G2



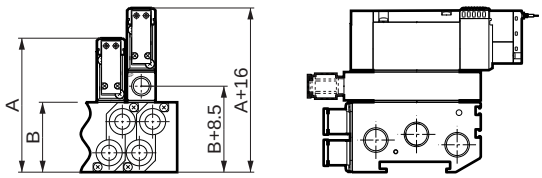




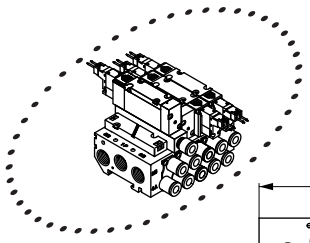
Dimensions when installed

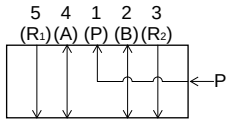


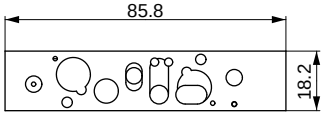
Dimensions when installed

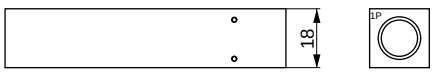


● 4G3

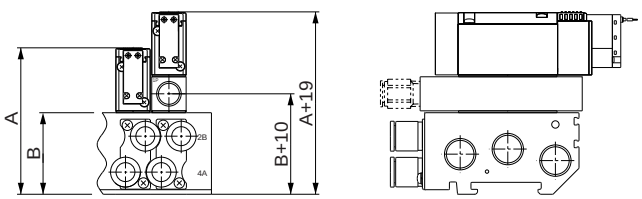








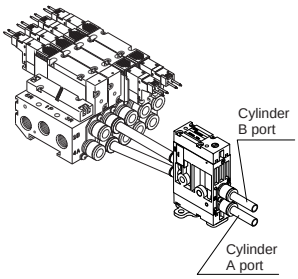
Dimensions when installed



Note: For A and B dimensions, refer to the dimensions for respective specifications.

Related products

● Pilot check valve



How to order

● Discrete model no.

4G2 - PCS - C4 - ○

● Manifold model no.

M4G2 - PCS - C4 - ○ - 5

Model no.

Pilot check valve

Ⓐ Port size Note 1

Ⓑ Option Note 2

Ⓒ Station number

Specifications

Descriptions	4G2-PCS-*-*
Effective sectional area mm²	12
Weight g	200

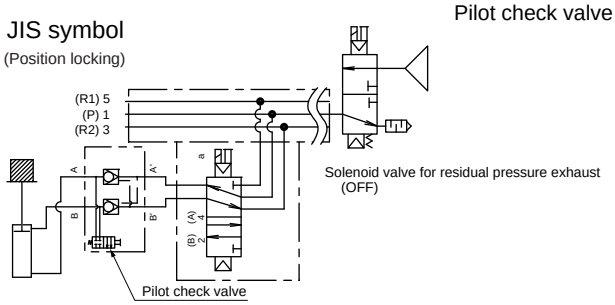
Symbol	Descriptions	
Ⓐ Port size		
	Valve side port	Cylinder side port
C4	ø4 push-in joint	ø4 push-in joint
C6	ø6 push-in joint	ø6 push-in joint
C8	ø8 push-in joint	ø8 push-in joint
CL6	ø6 push-in joint	ø6 push-in joint L type (upward)
CL8	ø8 push-in joint	ø8 push-in joint L type (upward)

Ⓑ Option	
Blank	None
F	A/B port filter integrated
M	Manual non-locking
D	DIN rail mount type

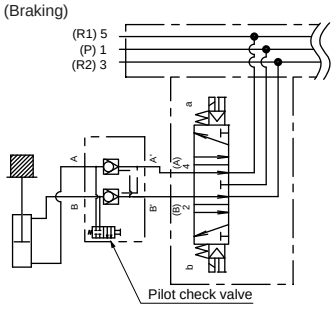
Ⓒ Station number	
2	2 stations
to	to
10	10 stations

JIS symbol

(Position locking)



(Braking)



Example of leak comparison
All ports closed (solenoid) valve
10cm³/min. or less
Pilot check valve (4G2-PCS)
0 to 0.3cm³/min.

Note on model no. selection

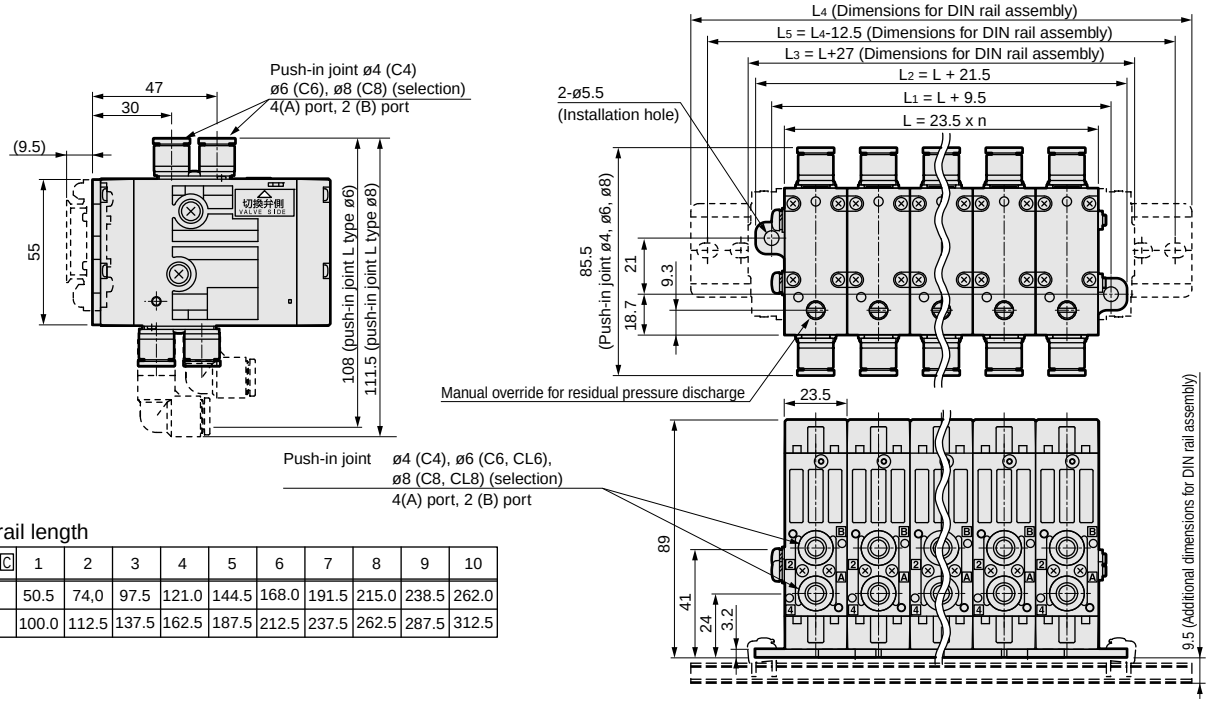
Note 1: Contact CKD for information on mixing port sizes.

Note 2: The following applies when no signal is selected as an option:

Manual override: Non-locking, locking common

Installation : Direct

Dimensions



DIN rail length

Sta. no. C	1	2	3	4	5	6	7	8	9	10
L3	50.5	74,0	97.5	121.0	144.5	168.0	191.5	215.0	238.5	262.0
L4	100.0	112.5	137.5	162.5	187.5	212.5	237.5	262.5	287.5	312.5

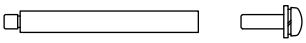
Related products

● Tie rod kit

(For manifold connection and expansion)

4G2 - PCS - TR - V1

Ⓐ Type
Note 1



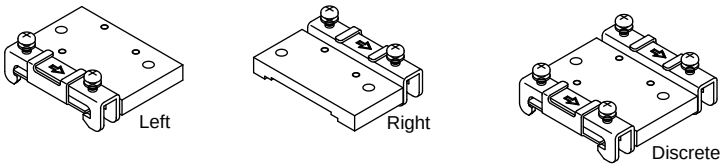
Ⓐ Type	
V1	For 1 station
V2	For 2 stations
V3	For 3 stations
V4	For 4 stations
V5	For 5 stations

⚠ Note on model no. selection

Note 1: Select the V1 to V5 combination when using six or more stations.

● DIN rail adaptor kit

(The DIN rail adapter kit must be reassembled as shown below.)



4G2 - PCS - D1

Ⓐ Type

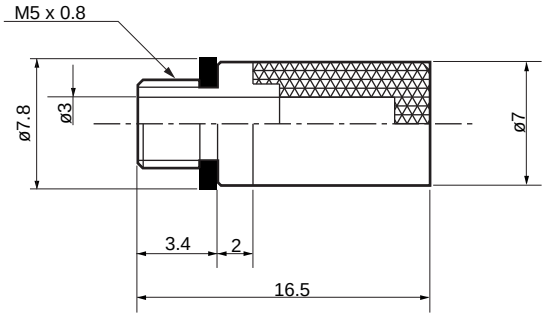
Ⓐ Type		DIN rail adapter kit selections based on changes in specifications				
Symbol \ Descriptions		Mounting plate ⟶ DIN rail		Increase/decrease stations in DIN rail mounting		Descriptions
		1 station	2 stations and over	2 sta. and over ⟶ 1 sta.	1 sta. ⟶ 2 sta. and over	
D1	Right				● (Note 4)	1 DIN rail adaptor (right), 2 screws
D2	Right + left		●			1 DIN rail adaptor (right), 1 DIN rail adaptor (left), 4 screws
D3	Discrete	●		●		1 DIN rail adaptor (discrete), 2 screws

Note 4: When changing from one station to two or more stations, purchase the DIN rail adapter for right (D1), and remove the retainer on one side of the current DIN rail adapter kit (D3).

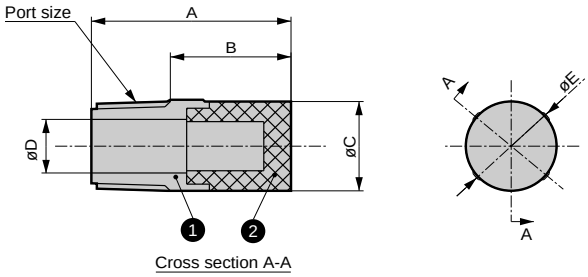
Related products

● Silencer

● SLM-M5

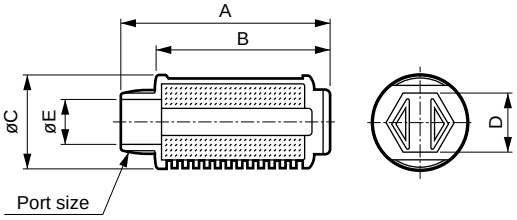


● SLW-6S, 8S



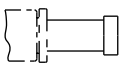
Model no.	Port size	A	B	C	D	E
SLW-6S	R1/8	22	13.3	10.5	6	10.5
SLW-8S	R1/4	28	19	14.8	9	15.4

● SLW-6A, 8A, 10A, 10L

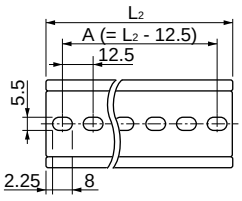


Symbol / Model no.	Damping effect dB (A)	Effective sec. area mm²	A	B	C	D	E	Port size
SLW-6A	30 or more	10	34.5	28	16.5	10	7	R1/8
SLW-8A	30 or more	20	44.5	36	20	13	8.5	R1/4
SLW-10A	30 or more	30	58.5	48.5	25.5	17	12	R3/8
SLW-10L	30 or more	60	68.2	58.4	28	19	12	R3/8

● Plug type

Part name	Model no.	Appearance
Blank plug	GWP-4B GWP-6B GWP-8B GWP-10B	
Screw plug	4G1-M5P	 (FPL-M5)
	4G2-06P 4G3-08P	 Hexagon socket head plug

● DIN rail



L₁: Manifold length		L₂: Rail length	A: Mounting pitch
35	47.5 or less	87.5	75
47.5 and over	60 or less	100	87.5
60	72.5	112.5	100
72.5	85	125	112.5
85	97.5	137.5	125
97.5	110	150	137.5
110	122.5	162.5	150
122.5	135	175	162.5
135	147.5	187.5	175
147.5	160	200	187.5
160	172.5	212.5	200
172.5	185	225	212.5
185	197.5	237.5	225
197.5	210	250	237.5
210	222.5	262.5	250
222.5	235	275	262.5
235	247.5	287.5	275
247.5	260	300	287.5
260	272.5	312.5	300
272.5	285	325	312.5
285	297.5	337.5	325
297.5	310	350	337.5
310	322.5	362.5	350
322.5	335	375	362.5
335	347.5	387.5	375
347.5	360	400	387.5
360	372.5	412.5	400
372.5	385	425	412.5
385	397.5	437.5	425
397.5	410	450	437.5
410	422.5	462.5	450
422.5	435	475	462.5
435	447.5	487.5	475
447.5	460	500	487.5
460	472.5	512.5	500
472.5	485	525	512.5
485	497.5	537.5	525
497.5	510	550	537.5

If the length exceeds 510, calculate using a multiple of 12.5.

How to fill out metal base M4G series manifold specification sheet

● Manifold model no. (example)

M 4 G(A/B) 1 8 0 - CX - T30 [ ] - 9 - 3

Solenoid valve type | Solenoid position | Port size | Electric connection | Terminal connector pin array | Station number | Voltage

Solenoid valve model no.	Joint CX A	Joint CX B	Installation position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Qty.
4G(B)119-CX	C6	X	○	○																							2
4G(B)119-C6					○	○																					2
4G(B)129-C6							○	○																			2
4G(B)159-CX	C6	C4							○	○																	2
4G 19-																											
3G(A)19-																											
3G(A)19-																											
Masking plate 4G1-MP (S)																											
Masking plate 4G1-MP (D)											○																1

Indicate "X" for a plug.

Indicate "CX" when changing the joint combination.

Mounting rail	L_2=	Accessories	Blanking plug	Blanking plug	Screw plug	Silencer	Silencer
			GWP4-B	GWP6-B	4G1-M5P	SLW-6S	SLW-6A
			Cable with D sub-connector	N4T-CABLE-D0*-*		Push-in joint tube remover (Standard) ☑ Not required (Check)	

Check if the tube remover (standard accessory) is not required.

* Reference circuit diagrams for the above manifold (example) are given on the next page.

Precautions for mix joint CX

The A/B port joint can be selected freely by indicating "CX" in the port size field.

Available cartridge joint	
4G1	C4, C6, X (plug)
4G2	C4, C6, C8, X (plug)
4G3	C6, C8, C10, X (plug)

Use as a Sub-base porting M4GB*10 3 port valve

Mounting a plug cartridge on either the A or B port enables use as a N.O./N.C.. Indicate "X" in the joint CX field.

Switching type	Plug installation port
N.C. (normally closed)	B
N.O. (normally open)	A

When selecting female thread specifications, indicate the required number of plugs in the "Thread Plug" field at the end. The female threads and cartridge joint cannot be used together in one manifold set.

Elbow type specifications

- The elbow is compatible only with the single solenoid hold. The A port is a long elbow and the B port a short elbow.
- A/B port sizes do not differ for elbow specifications. If "X" plug is designated for the A or B port, the other port will be a short elbow.

Different manifold specifications are used for each model, so fill out corresponding specifications.

- Individual wiring ··· M4G(A/B)1 (Page 242), M4G(A/B)2 (Page 243), M4G(A/B)3 (Page 244)
- Reduced wiring
  - · Common gland (T1*), D sub-connector (T30): M4G(A/B)1 (Page 245), M4G(A/B)2 (Page 246), M4G(A/B)3 (Page 247)
  - · Flat cable connector (T5*): M4G(A/B)1 (Page 248), M4G(A/B)2 (Page 249), M4G(A/B)3 (Page 250)
  - · Serial transmission (T6*): M4G(A/B)1 (Page 251), M4G(A/B)2 (Page 252), M4G(A/B)3 (Page 253)

How to fill out wiring specifications sheet

Not required for standard wiring and double wiring.

● Wiring specifications (example)

Complete these specifications when designating the wiring sequence and extra cables.

Connector pin No.		Installation position																
T30/T30R	T50/T50R/T6*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	1	a																
14	2		a															
2	3			a														
15	4			ⓑ														
3	5				a													
16	6				ⓑ													
4	7					a												
17	8					b												
5	9 - power supply						a											
18	10 + (COM) power supply						b											
6	11							a										
19	12							b										
7	13								a									
20	14								b									
8	15									a								
21	16									b								
9	17																	
22	18																	
10	19 - power supply																	
23	20 + (COM) power supply																	
11																		
24																		
12																		
25																		
13 (COM)																		

Reserved cable wiring Precaution (1)

Reserved cable wiring Precaution (2)

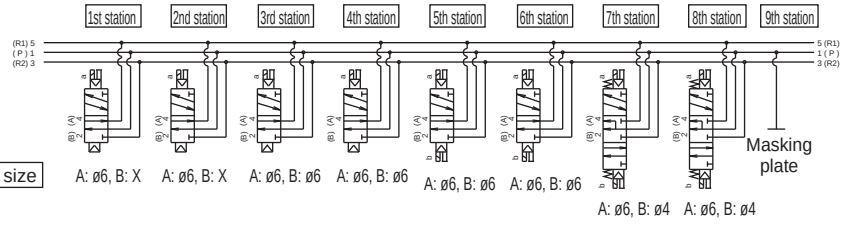
* When T50 wiring is used, COM polarity will be + (plus).
* When T50 wiring is used, connector pin numbers 9, 10, 19, and 20 cannot be designated because they are used for external input power.

Precautions for reserved wiring

(1) With the T30, T50, and T51, reserved wiring can be used to prepare to change from the single sol. to the double sol. Contact CKD for details.
Indicate the planned expansion location (location changed from single to double sol.).
Put a circle in the wiring specifications field to indicate reserved wiring, and indicate the a/b sol. side classification.

(2) Reserved wiring is prepared on the masking plate. (Refer to Page 383 page.)
The number of reserved wires is designated by selecting the masking plate in specifications.
(* If not designated, two reserved wires (MPD) will be provided.)
4G*-MP(S) ... 1 wire
4G*-MP(D) ... 2 wire

References circuit diagram This is the circuit diagram from the manifold (example) on the previous page.



Port size

A: ø6, B: X | A: ø6, B: X | A: ø6, B: ø6 | A: ø6, B: ø6 | A: ø6, B: ø6 | A: ø6, B: ø6 | A: ø6, B: ø4 | A: ø6, B: ø4

* Manifold stations are set in order from left with the piping port facing forward.

M4G$^{A}_{B}$1 manifold specification sheet

Issue / /

Your company name

Contact

Order No.

● Contact ● Quantity set ● Request date

Slip No.	Order No.

● Manifold model no.

M [ ] **G**$^{A}_{B}$**1** [ ] **0-** [ ] **-** [ ] [ ] [ ] **-** [ ] **-** [ ]

Solenoid valve type / Solenoid position / Port size / Electric connection / Other options / Mount type / Station number / Voltage

Solenoid valve model no.	Joint CX A	Joint CX B	Valve installation position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Qty.
4G [ ] 1 [ ] 9- [ ]																											
4G [ ] 1 [ ] 9- [ ]																											
4G [ ] 1 [ ] 9- [ ]																											
4G [ ] 1 [ ] 9- [ ]																											
4G [ ] 1 [ ] 9- [ ]																											
3G [ ] 1 [ ] 9- [ ]																											
3G [ ] 1 [ ] 9- [ ]																											
Masking plate 4G1-MP- [ ]																											
Air supply spacer 4G1-P- [ ]																											
Air supply spacer 4G1-P- [ ]																											

Mounting rail	L_2= [ ]	Accessories	Blanking plug	Blanking plug	Screw plug	Silencer	Silencer
			GWP4-B [ ]	GWP6-B [ ]	4G1-M5P [ ]	SLW-6S [ ]	SLW-6A [ ]
			Push-in joint tube remover (Standard) ☐Not required (Check)				

M4G$^{A}_{B}$2 manifold specification sheet

Issue / /

Your company name

Contact

Order No.

● Contact ● Quantity set ● Request date

Slip No.	Order No.

● Manifold model no.

M G$^{A}_{B}$2 0- - -

Solenoid valve type | Solenoid position | Port size | Electric connection | Other options | Mount type | Station number | Voltage

Solenoid valve model no.	Joint CX A	Joint CX B	Valve installation position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Qty.
4G 2 9-																											
4G 2 9-																											
4G 2 9-																											
4G 2 9-																											
4G 2 9-																											
3G 2 9-																											
3G 2 9-																											
Masking plate 4G2-MP-																											
Air supply spacer 4G2-P-																											
Air supply spacer 4G2-P-																											
In stop valve spacer 4G2-IS																											

Mounting rail	L_2=	Accessories	Blanking plug						Screw plug		Silencer			
			GWP4-B		GWP6-B		GWP8-B		4G2-06P		SLW-8S		SLW-8A	

M4G$^{A}_{B}$3 manifold specification sheet

Issue / /

Your company name

Contact

Order No.

● Contact ● Quantity set ● Request date

Slip No.	Order No.

● Manifold model no.

M [ ] **G**$^{A}_{B}$**3** [ ] **0-** [ ] **-** [ ] [ ] [ ] **-** [ ] **-** [ ]

Solenoid valve type | Solenoid position | Port size | Electric connection | Other options | Mount type | Station number | Voltage

Solenoid valve model no.	Joint CX A	Joint CX B	Valve installation position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Qty.
4G [ ] 3 [ ] 9- [ ]																											
4G [ ] 3 [ ] 9- [ ]																											
4G [ ] 3 [ ] 9- [ ]																											
4G [ ] 3 [ ] 9- [ ]																											
4G [ ] 3 [ ] 9- [ ]																											
3GA3 [ ] 9- [ ]																											
3GA3 [ ] 9- [ ]																											
Masking plate 4G3-MP- [ ]																											
Air supply spacer 4G3-P- [ ]																											
Air supply spacer 4G3-P- [ ]																											
In stop valve spacer 4G3-IS																											

Mounting rail	L_2= [ ]	Acces-sories	Blanking plug						Screw plug		Silencer			
			GWP6-B		GWP8-B		GWP10-B		4G3-08P		SLW-10A		SLW-10L	

M4G$^{A}_{B}$1-T1/3 manifold specification sheet

Issue / /

Your company name

Contact

Order No.

● Contact ● Quantity set ● Request date

Slip No.	Order No.

● Manifold model no.

M □ G$^{A}_{B}$1 □ 0- □ - □ □ □ □ - □ - □

Solenoid valve type / Solenoid position / Port size / Reduced wiring / Terminal connector pin array / Option / Mount type / Station number / Voltage

Solenoid valve model no.	Joint CX A	Joint CX B	Valve installation position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Qty.
4G □ 1 □ 9- □																											
4G □ 1 □ 9- □																											
4G □ 1 □ 9- □																											
4G □ 1 □ 9- □																											
4G □ 1 □ 9- □																											
3G □ 1 □ 9- □																											
3G □ 1 □ 9- □																											
Masking plate 4G1-MP(S)- □																											
Masking plate 4G1-MP(D)- □																											
Air supply spacer 4G1-P- □																											
Air supply spacer 4G1-P- □																											

Mounting rail	L_2= □	Accessories	Blanking plug	Blanking plug	Screw plug	Silencer	Silencer
			GWP4-B □	GWP6-B □	4G1-M5P □	SLW-6S □	SLW-6A □
			Cable with D sub-connector	N4T-CABLE-D0*-*	Push-in joint tube remover (Standard) ☐ Not required (Check)		

● Wiring specifications (Not required for standard wiring and double wiring. Complete these specifications when designating the wiring sequence and extra cables.)

Connector pin No. T10/T10R	T11/T11R	T30/T30R	Installation position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	1	1																								
2	2	14																								
3	3	2																								
4	4	15																								
5	5	3																								
6	6	16																								
7	7	4																								
8	8	17																								
9	9	5																								
10	10	18																								
11	11	6																								
12	12	19																								
13	13	7																								
14	14	20																								
COM	15	8																								
COM	16	21																								
	17	9																								
	18	22																								
	19	10																								
	20	23																								
	21	11																								
	22	24																								
	23	12																								
	24	25																								
	COM	13 (COM)																								
	COM																									

M4G$^{A}_{B}$2-T1/3 manifold specification sheet

Issue / /

Your company name

Contact

Order No.

● Contact ● Quantity set ● Request date

Slip No.	Order No.

● Manifold model no.

M [ ] **G$^{A}_{B}$2** [ ] **0-** [ ] **-** [ ] [ ] [ ] [ ] **-** [ ] **-** [ ]

Solenoid valve type | Solenoid position | Port size | Reduced wiring | Terminal connector pin array | Option | Mount type | Station number | Voltage

Solenoid valve model no.	Joint CX A	Joint CX B	Valve installation position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Qty.
4G [ ] 2 [ ] 9- [ ]																											
4G [ ] 2 [ ] 9- [ ]																											
4G [ ] 2 [ ] 9- [ ]																											
4G [ ] 2 [ ] 9- [ ]																											
4G [ ] 2 [ ] 9- [ ]																											
3G [ ] 2 [ ] 9- [ ]																											
3G [ ] 2 [ ] 9- [ ]																											
Masking plate 4G2-MP(S)- [ ]																											
Masking plate 4G2-MP(D)- [ ]																											
Air supply spacer 4G2-P- [ ]																											
Air supply spacer 4G2-P- [ ]																											
In stop valve spacer 4G2-IS																											

Mounting rail	L_2= [ ]	Acces-sories	Blanking plug						Screw plug		Silencer			
			GWP4-B [ ]	GWP6-B [ ]	GWP8-B [ ]				4G2-06P [ ]		SLW-8S [ ]	SLW-8A [ ]		
			Cable with D sub-connector	N4T-CABLE-D0*-* [ ]										

● Wiring specifications (Not required for standard wiring and double wiring. Complete these specifications when designating the wiring sequence and extra cables.)

Connector pin No. T10/T10R	T11/T11R	T30/T30R	Installation position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	1	1																								
2	2	14																								
3	3	2																								
4	4	15																								
5	5	3																								
6	6	16																								
7	7	4																								
8	8	17																								
9	9	5																								
10	10	18																								
11	11	6																								
12	12	19																								
13	13	7																								
14	14	20																								
COM	15	8																								
COM	16	21																								
	17	9																								
	18	22																								
	19	10																								
	20	23																								
	21	11																								
	22	24																								
	23	12																								
	24	25																								
	COM	13 (COM)																								
	COM																									

M4G$^{A}_{B}$3-T1/3 manifold specification sheet

Issue / /

Your company name

Contact

Order No.

● Contact ● Quantity set ● Request date

Slip No.	Order No.

● Manifold model no.

M □ G$^{A}_{B}$3 □ 0- □ - □ □ □ □ - □ - □

Solenoid valve type / Solenoid position / Port size / Reduced wiring / Terminal connector pin array / Option / Mount type / Station number / Voltage

Solenoid valve model no.	Joint CX A	Joint CX B	Valve installation position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Qty.
4G □ 3 □ 9- □																											
4G □ 3 □ 9- □																											
4G □ 3 □ 9- □																											
4G □ 3 □ 9- □																											
4G □ 3 □ 9- □																											
3GA3 □ 9- □																											
3GA3 □ 9- □																											
Masking plate **4G3-MP(S)-** □																											
Masking plate **4G3-MP(D)-** □																											
Air supply spacer **4G3-P-** □																											
Air supply spacer **4G3-P-** □																											
In stop valve spacer **4G3-IS**																											

Mounting rail	L_2= □	Accessories	Blanking plug	Screw plug	Silencer
			GWP6-B □ **GWP8-B** □ **GWP10-B** □	**4G3-08P** □	**SLW-10A** □ **SLW-10L** □
			Cable with D sub-connector N4T-CABLE-D0*-* □		

● Wiring specifications (Not required for standard wiring and double wiring. Complete these specifications when designating the wiring sequence and extra cables.)

Connector pin No. T10/T10R	T11/T11R	T30/T30R	Installation position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	1	1																								
2	2	14																								
3	3	2																								
4	4	15																								
5	5	3																								
6	6	16																								
7	7	4																								
8	8	17																								
9	9	5																								
10	10	18																								
11	11	6																								
12	12	19																								
13	13	7																								
14	14	20																								
COM	15	8																								
COM	16	21																								
	17	9																								
	18	22																								
	19	10																								
	20	23																								
	21	11																								
	22	24																								
	23	12																								
	24	25																								
	COM	13 (COM)																								
	COM																									

M4G$^{A}_{B}$1-T5 manifold specification sheet

Issue / /

Your company name

Contact

Order No.

● Contact ● Quantity set ● Request date

Slip No.	Order No.

● Manifold model no.

M □ G$^{A}_{B}$1 □ 0- □ - □ □ □ □ - □ - □

Solenoid valve type / Solenoid position / Port size / Reduced wiring / Terminal connector pin array / Option / Mount type / Station number / Voltage

Solenoid valve model no.	Joint CX A	Joint CX B	Valve installation position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Qty.
4G □ 1 □ 9- □																											
4G □ 1 □ 9- □																											
4G □ 1 □ 9- □																											
4G □ 1 □ 9- □																											
4G □ 1 □ 9- □																											
3G □ 1 □ 9- □																											
3G □ 1 □ 9- □																											
Masking plate 4G1-MP(S)- □																											
Masking plate 4G1-MP(D)- □																											
Air supply spacer 4G1-P- □																											
Air supply spacer 4G1-P- □																											

Mounting rail	L_2= □	Accessories	Blanking plug	Blanking plug	Screw plug	Silencer	Silencer
			GWP4-B □	GWP6-B □	4G1-M5P □	SLW-6S □	SLW-6A □
			Push-in joint tube remover (Standard) □Not required (Check)				

● Wiring specifications (Not required for standard wiring and double wiring. Complete these specifications when designating the wiring sequence and extra cables.)

Connector pin No. T50/T50R	T51/T51R	T52/T52R	T53/T53R	Installation position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	1	1	1																								
2	2	2	2																								
3	3	3	3																								
4	4	4	4																								
5	5	5	5																								
6	6	6	6																								
7	7	7	7																								
8	8	8	8																								
9 - power supply	9	9 COM	9																								
10 + (COM) power supply	10	10 COM	10																								
11	11		11																								
12	12		12																								
13	13		13																								
14	14		14																								
15	15		15																								
16	16		16																								
17	17		17																								
18	18		18																								
19 - power supply	19 COM		19																								
20 + (COM) power supply	20 COM		20																								
			21																								
			22																								
			23																								
			24																								
			25 COM																								
			26 COM																								

* When T50 wiring is used, COM polarity will be + (plus).
* When T50 wiring is used, connector pin numbers 9, 10, 19, and 20 cannot be designated because they are used for external input power.

M4G$^{A}_{B}$2-T5 manifold specification sheet

Issue / /

Your company name

Contact

Order No.

● Contact ● Quantity set ● Request date

Slip No.	Order No.

● Manifold model no.

M □ **G**$^{A}_{B}$ **2** □ **0-** □ **-** □ □ □ □ **-** □ **-** □

Solenoid valve type | Solenoid position | Port size | Reduced wiring | Terminal connector pin array | Option | Mount type | Station number | Voltage

Solenoid valve model no.	Joint CX A	Joint CX B	Valve installation position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Qty.
4G □ 2 □ 9- □																											
4G □ 2 □ 9- □																											
4G □ 2 □ 9- □																											
4G □ 2 □ 9- □																											
4G □ 2 □ 9- □																											
3G □ 2 □ 9- □																											
3G □ 2 □ 9- □																											
Masking plate 4G2-MP(S)- □																											
Masking plate 4G2-MP(D)- □																											
Air supply spacer 4G2-P- □																											
Air supply spacer 4G2-P- □																											
In stop valve spacer 4G2-IS																											

Mounting rail	L_2= □	Acces-sories	Blanking plug						Screw plug		Silencer			
			GWP4-B	□	GWP6-B	□	GWP8-B	□	4G2-06P	□	SLW-8S	□	SLW-8A	□

● Wiring specifications (Not required for standard wiring. Complete these specifications when designating the wiring sequence and extra cables.)

Connector pin No. T50/T50R	T51/T51R	T52/T52R	T53/T53R	Installation position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	1	1	1																								
2	2	2	2																								
3	3	3	3																								
4	4	4	4																								
5	5	5	5																								
6	6	6	6																								
7	7	7	7																								
8	8	8	8																								
9 - power supply	9	9 COM	9																								
10 + (COM) power supply	10	10 COM	10																								
11	11		11																								
12	12		12																								
13	13		13																								
14	14		14																								
15	15		15																								
16	16		16																								
17	17		17																								
18	18		18																								
19 - power supply	19 COM		19																								
20 + (COM) power supply	20 COM		20																								
			21																								
			22																								
			23																								
			24																								
			25 COM																								
			26 COM																								

* When T50 wiring is used, COM polarity will be + (plus).
* When T50 wiring is used, connector pin numbers 9, 10, 19, and 20 cannot be designated because they are used for external input power.

M4G$^{A}_{B}$3-T5 manifold specification sheet

Issue / /

Your company name

Contact

Order No.

● Contact ● Quantity set ● Request date

Slip No.	Order No.

● Manifold model no.

M [ ] **G$^{A}_{B}$3** [ ] **0-** [ ] **-** [ ] [ ] [ ] [ ] **-** [ ] **-** [ ]

Solenoid valve type / Solenoid position / Port size / Reduced wiring / Terminal connector pin array / Option / Mount type / Station number / Voltage

Solenoid valve model no.	Joint CX A	Joint CX B	Valve installation position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Qty.
4G [ ] 3 [ ] 9- [ ]																											
4G [ ] 3 [ ] 9- [ ]																											
4G [ ] 3 [ ] 9- [ ]																											
4G [ ] 3 [ ] 9- [ ]																											
4G [ ] 3 [ ] 9- [ ]																											
3GA3 [ ] 9- [ ]																											
3GA3 [ ] 9- [ ]																											
Masking plate 4G3-MP(S)- [ ]																											
Masking plate 4G3-MP(D)- [ ]																											
Air supply spacer 4G3-P- [ ]																											
Air supply spacer 4G3-P- [ ]																											
In stop valve spacer 4G3-IS																											

Mounting rail	L_2= [ ]	Accessories	Blanking plug						Screw plug		Silencer			
			GWP6-B		GWP8-B		GWP10-B		4G3-08P		SLW-10A		SLW-10L	

● Wiring specifications (Not required for standard wiring and double wiring. Complete these specifications when designating the wiring sequence and extra cables.)

Connector pin No. T50/T50R	T51/T51R	T52/T52R	T53/T53R	Installation position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	1	1	1																								
2	2	2	2																								
3	3	3	3																								
4	4	4	4																								
5	5	5	5																								
6	6	6	6																								
7	7	7	7																								
8	8	8	8																								
9 - power supply	9	9 COM	9																								
10 + (COM) power supply	10	10 COM	10																								
11	11		11																								
12	12		12																								
13	13		13																								
14	14		14																								
15	15		15																								
16	16		16																								
17	17		17																								
18	18		18																								
19 - power supply	19 COM		19																								
20 + (COM) power supply	20 COM		20																								
			21																								
			22																								
			23																								
			24																								
			25 COM																								
			26 COM																								

* When T50 wiring is used, COM polarity will be + (plus).
* When T50 wiring is used, connector pin numbers 9, 10, 19, and 20 cannot be designated because they are used for external input power.

M4G$^{A}_{B}$1-T6D manifold specification sheet

Issue / /

Your company name

Contact

Order No.

● Contact ● Quantity set ● Request date

Slip No.	Order No.

● Manifold model no.

M □ **G$^{A}_{B}$1** □ **0-** □ **-** □ □ □ **D -** □ **- 3**

Solenoid valve type | Solenoid position | Port size | Serial transmission | Terminal/connector pin array | Option | Station number | Voltage

Solenoid valve model no.	Joint CX A	Joint CX B	Valve installation position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Qty.
4G □ 1 □ 9- □																			
4G □ 1 □ 9- □																			
4G □ 1 □ 9- □																			
4G □ 1 □ 9- □																			
4G □ 1 □ 9- □																			
3G □ 1 □ 9- □																			
3G □ 1 □ 9- □																			
Masking plate **4G1-MP(S)-** □																			
Masking plate **4G1-MP(D)-** □																			
Air supply spacer **4G1-P-** □																			
Air supply spacer **4G1-P-** □																			

Installation rail	L_2=	Acces-sories	Blanking plug	Blanking plug	Screw plug	Silencer	Silencer
			GWP4-B	**GWP6-B**	**4G1-M5P**	**SLW-6S**	**SLW-6A**
			Push-in joint tube remover (Standard) ☐Not required (Check)				

● Wiring specifications (Not required for standard wiring and double wiring. Complete these specifications when designating the wiring sequence and extra cables.)

Connector pin No. T6*		Installation position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	1																
	2																
	3																
T6A0: UNIWIRE SYSTEM 8 points	4																
T6A1: UNIWIRE SYSTEM 16 points	5																
	6																
T6C0: OMRON CompoBus/S 8 points	7																
T6C1: OMRON CompoBus/S 16 points	8																
	9 - power supply																
T6G1: CC-Link	10 + (COM) power supply																
T6E0: SUNX S-LINK 8 points	11																
	12																
T6E1: SUNX S-LINK 16 points	13																
T6J0: UNIWIRE H SYSTEM 8 points	14																
T6J1: UNIWIRE H SYSTEM 16 points	15																
	16																
	17																
	18																
	19 - power supply																
	20 + (COM) power supply																

M4G$^{A}_{B}$2-T6D manifold specification sheet

Issue / /

Your company name

Contact

Order No.

● Contact ● Quantity set ● Request date

Slip No.	Order No.

● Manifold model no.

M □ G$^{A}_{B}$ 2 □ 0- □ - □ □ □ D - □ - 3

Solenoid valve type / Solenoid position / Port size / Serial transmission / Terminal/connector pin array / Option / Station number / Voltage

Solenoid valve model no.	Joint CX A	Joint CX B	Valve installation position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Qty.
4G □ 2 □ 9-																			
4G □ 2 □ 9-																			
4G □ 2 □ 9-																			
4G □ 2 □ 9-																			
4G □ 2 □ 9-																			
3G □ 2 □ 9-																			
3G □ 2 □ 9-																			
Masking plate 4G2-MP(S)- □																			
Masking plate 4G2-MP(D)- □																			
Air supply spacer 4G2-P- □																			
Air supply spacer 4G2-P- □																			
In stop valve spacer 4G2-IS																			

Installation rail	L_2= □	Accessories	Blanking plug						Screw plug		Silencer			
			GWP4-B		GWP6-B		GWP8-B		4G2-06P		SLW-8S		SLW-8A	

● Wiring specifications (Not required for standard wiring and double wiring. Complete these specifications when designating the wiring sequence and extra cables.)

Connector pin No. T6*		Installation position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	1																
	2																
	3																
T6A0: UNIWIRE SYSTEM 8 points	4																
T6A1: UNIWIRE SYSTEM 16 points	5																
	6																
T6C0: OMRON CompoBus/S 8 points	7																
T6C1: OMRON CompoBus/S 16 points	8																
	9 - power supply																
T6G1: CC-Link	10 + (COM) power supply																
T6E0: SUNX S-LINK 8 points	11																
	12																
T6E1: SUNX S-LINK 16 points	13																
T6J0: UNIWIRE H SYSTEM 8 points	14																
T6J1: UNIWIRE H SYSTEM 16 points	15																
	16																
	17																
	18																
	19 - power supply																
	20 + (COM) power supply																

M4G$^{A}_{B}$3-T6D manifold specification sheet

Issue / /

Your company name

Contact

Order No.

● Contact ● Quantity set ● Request date

Slip No.	Order No.

● Manifold model no.

M □ **G**$^{A}_{B}$ **3** □ **0-** □ **-** □ □ □ **D -** □ **- 3**

Solenoid valve type | Solenoid position | Port size | Serial transmission | Terminal/connector pin array | Option | Station number | Voltage

Solenoid valve model no.	Joint CX A	Joint CX B	Valve installation position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	Qty.
4G □ 3 □ 9- □																			
4G □ 3 □ 9- □																			
4G □ 3 □ 9- □																			
4G □ 3 □ 9- □																			
4G □ 3 □ 9- □																			
3GA3 □ 9- □																			
3GA3 □ 9- □																			
Masking plate 4G3-MP(S)- □																			
Masking plate 4G3-MP(D)- □																			
Air supply spacer 4G3-P- □																			
Air supply spacer 4G3-P- □																			
In stop valve spacer 4G3-IS																			

Installation rail	L_2= □	Accessories	Blanking plug						Screw plug		Silencer			
			GWP6-B		GWP8-B		GWP10-B		4G3-08P		SLW-10A		SLW-10L	

● Wiring specifications (Not required for standard wiring and double wiring. Complete these specifications when designating the wiring sequence and extra cables.)

Connector pin No. T6*		Installation position 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	1																
	2																
	3																
T6A0: UNIWIRE SYSTEM 8 points	4																
	5																
T6A1: UNIWIRE SYSTEM 16 points	6																
T6C0: OMRON CompoBus/S 8 points	7																
T6C1: OMRON CompoBus/S 16 points	8																
	9 - power supply																
T6G1: CC-Link	10 + (COM) power supply																
T6E0: SUNX S-LINK 8 points	11																
	12																
T6E1: SUNX S-LINK 16 points	13																
T6J0: UNIWIRE H SYSTEM 8 points	14																
T6J1: UNIWIRE H SYSTEM 16 points	15																
	16																
	17																
	18																
	19 - power supply																
	20 + (COM) power supply																