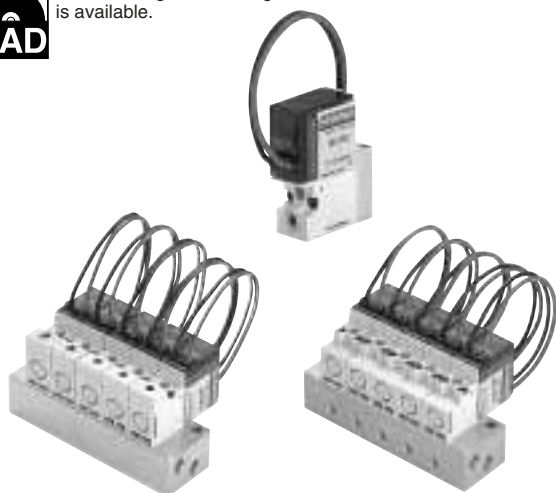




CAD drawing data catalog
is available.



KOGANEI

VALVES GENERAL CATALOG

SOLENOID VALVES G010 SERIES

SOLENOID VALVES G010 SERIES INDEX

Features	35
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Solenoid Valve Order Codes	45
Manifold Order Codes	46
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Dimensions of Solenoid Valve	48
Dimensions of Manifold	51



Caution

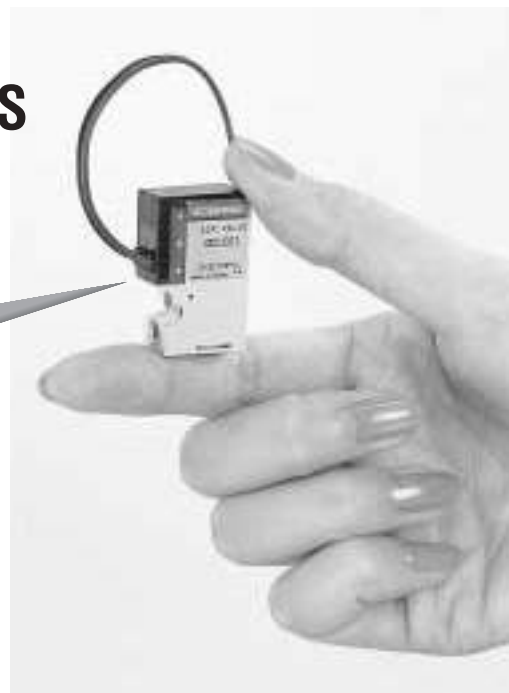
Before use, be sure to read the "Safety Precautions" on p. 31.

Powerful & Widely Varied

SOLENOID VALVES G010 SERIES

In response to diversified control requirements, our new line-up includes positive pressure normally open (NO) specifications, and vacuum specifications!

Now you can select the best possible control system for your production line machinery and equipment.



Total Height:
32~34mm
[1.26~1.34in.]

More compact than ever, in response to down-sizing requirements.

Note: Excluding the AC200V specification.

Wide voltage selection

STANDARD TYPE

Power consumption: 1.0W
Effective area: 0.2mm²
[Cv: 0.011]

Achieves power consumption of 0.5W

LOW CURRENT TYPE

Power consumption: 0.5W
Effective area: 0.1mm²
[Cv: 0.006]

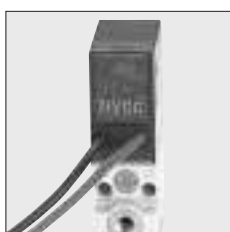
Meets large flow & quick response requirements

LARGE FLOW TYPE

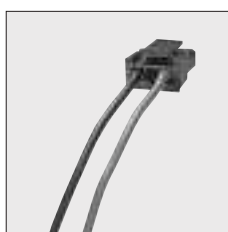
Power consumption: 3.2W^{Note}
Effective area: 0.45mm²
[Cv: 0.025]

Note: With power-saving circuit

Positive pressure specifications	Normally closed (NC)	G010E1	G010LE1	G010HE1
	Normally open (NO)	G010E1-11	G010LE1-11	G010HE1-11
Vacuum specifications	Normally closed (NC)	GV010E1	GV010LE1	GV010HE1
	Normally open (NO)	GV010E1-11	GV010LE1-11	GV010HE1-11



LED indicator is standard for the grommet type connector.



3-pin connector makes common wiring possible.

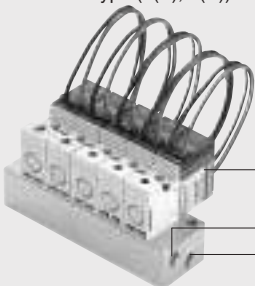
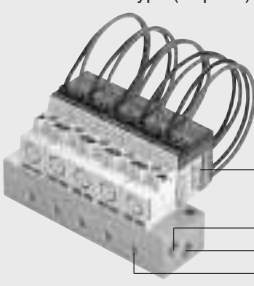
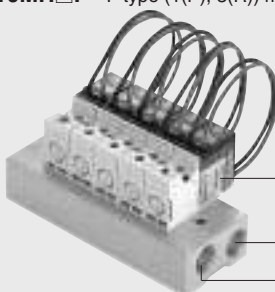
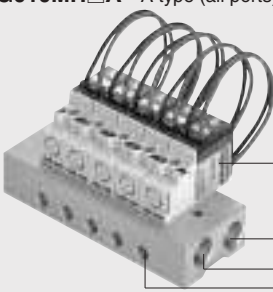


Locking type is standard for the manual override.

Single unit

Outward view Type		Direct acting solenoid valve			
		Normally closed (NC)		Normally open (NO)	
		Direct piping	Sub-base piping	Direct piping	Sub-base piping
Positive pressure specifications	G010E1 (Standard)	G010E1-21	GA010E1-25	G010E1-11-21	GA010E1-11-25
	G010LE1 (Low current)	G010LE1-21	GA010LE1-25	G010LE1-11-21	GA010LE1-11-25
	G010HE1 (Large flow)	G010HE1-21	GA010HE1-25	G010HE1-11-21	GA010HE1-11-25
Vacuum specifications	GV010E1 (Standard)	GV010E1-21	GAV010E1-25	GV010E1-11-21	GAV010E1-11-25
	GV010LE1 (Low current)	GV010LE1-21	GAV010LE1-25	GV010LE1-11-21	GAV010LE1-11-25
	GV010HE1 (Large flow)	GV010HE1-21	GAV010HE1-25	GV010HE1-11-21	GAV010HE1-11-25

Manifold

		G(V)010E1, G(V)010LE1, G(V)010HE1	
1(P), 3(R) port (M5×0.8) type		G010M□F —F type (1(P), 3(R)) manifold  G010E1, G010LE1, G010HE1 GV010E1, GV010LE1, GV010HE1 3(R) 1(P)	G010M□A —A type (all ports) manifold  GA010E1, GA010LE1, GA010HE1 GAV010E1, GAV010LE1, GAV010HE1 3(R) 1(P) 2(A)
1(P), 3(R) port (Rc1/8) type		G010MH□F —F type (1(P), 3(R)) manifold  G010E1, G010LE1, G010HE1 GV010E1, GV010LE1, GV010HE1 1(P) 3(R)	G010MH□A —A type (all ports) manifold  GA010E1, GA010LE1, GA010HE1 GAV010E1, GAV010LE1, GAV010HE1 1(P) 3(R) 2(A)



Piping Precautions

Use the piping shown below for the manifold, as well.

2-, 3-port valves valve functions and connection port configurations

Positive pressure specifications

		De-energized	Energized
2-port	Normally closed (NC)	2(A) ← 1(P) 3(R) (plug)	← 2(A) 1(P) 3(R)
	Normally open (NO)	2(A) ← 1(P) (plug) 3(R)	← 2(A) 1(P) 3(R)
3-port	Normally closed (NC)	2(A) ← 1(P) 3(R)	← 2(A) 1(P) 3(R)
	Normally open (NO)	2(A) ← 1(P) 3(R)	← 2(A) 1(P) 3(R)

Vacuum specifications

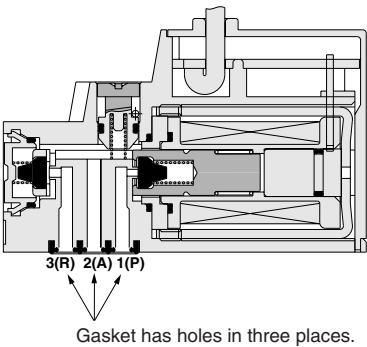
		De-energized	Energized
2-port	Normally closed (NC)	2(A) ← 1(P) (vacuum pump, etc.) 3(R) (plug)	← 2(A) 1(P) 3(R)
	Normally open (NO)	2(A) ← 1(P) (plug) 3(R) (vacuum pump, etc.)	← 2(A) 1(P) 3(R)
3-port	Normally closed (NC)	2(A) ← 1(P) (vacuum pump, etc.) 3(R) (atmospheric air and positive pressure)	← 2(A) 1(P) 3(R)
	Normally open (NO)	2(A) ← 1(P) (atmospheric air and positive pressure) 3(R) (vacuum pump, etc.)	← 2(A) 1(P) 3(R)

Caution: Normally closed (NC) and normally open (NO) valves cannot be mounted together on the same manifold.

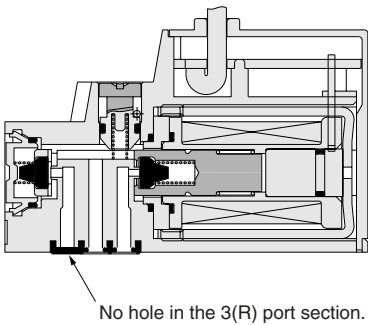
About the 2-, 3-port valves

The G010 series can be divided, by the types of gaskets used on the valves, into 3-port and 2-port valves. When replacing the valve, pay attention to the gasket shape and mounting direction.

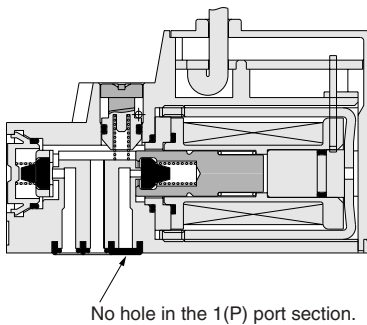
G010E1 (For 3-port)



G010E1-2 (For NC, 2-port)



G010E1-2-11 (For NO, 2-port)





Solenoid

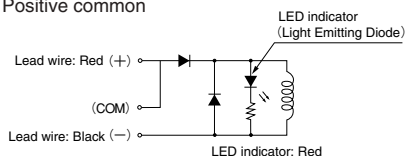
Internal circuit

<Standard type, low current type>

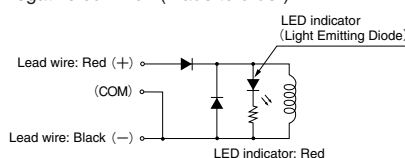
●DC5V, DC6V, DC12V, DC24V

Solenoid with LED indicator (Surge suppression)

●Positive common

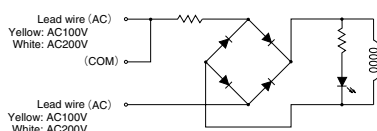


●Negative common (Made to order)



●AC100V, AC200V

Solenoid with LED indicator (Surge suppression)

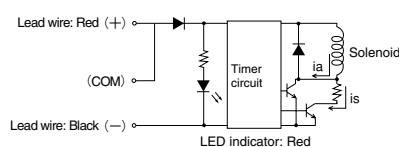


<Large flow type>

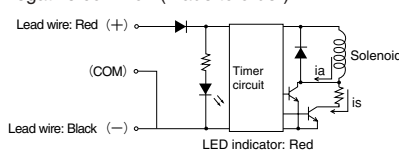
●DC12V, DC24V

Solenoid with LED indicator (Surge suppression)

●Positive common



●Negative common (Made to order)

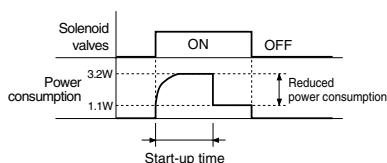


ia: Starting current
is: Steady-state current

Operating principles of large flow type

The large flow type uses a timer circuit, as shown above, that achieves power savings by switching to holding operations mode after a certain period of time to operate at about 1/3 of the starting power consumption.

●Power waveform



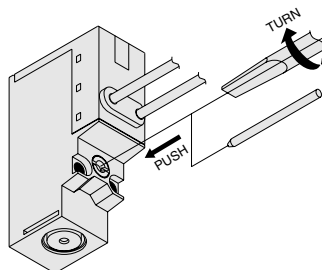
	Start-up time (Standard time)
DC12V	48ms
DC24V	27ms



Manual override

Locking type

To lock the manual override, use a small screwdriver to push down on the manual override all the way and turn it clockwise. When locked, turning the manual override in the counterclockwise direction releases a spring on the manual override, returns it to the original position, and releases the lock. When the manual override is not turned, this type acts just like the non-locking type, the valve is energized as long as the manual override is pushed down, and it returns to the rest position upon release.



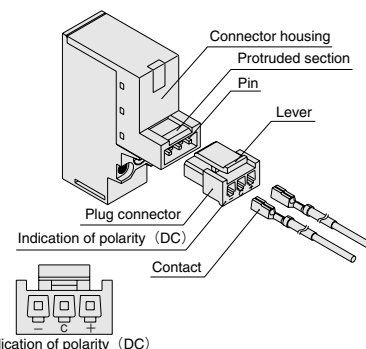
- Cautions:**
1. Always release the lock of the locking type before commencing normal operation.
 2. Do not attempt to operate the manual override with a pin or other object having an extremely fine tip. It could damage the manual override button.



Plug connector

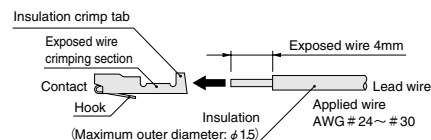
Attaching and removing plug connector

Use fingers to insert the connector into the pin, push it in until the lever claw latches onto the protruded section of the connector housing, and complete the connection. To remove the connector, squeeze the lever along with the connector, lift the lever claw up from the protruded section of the connector housing, and pull it out.



Crimping of connecting lead wire and contact

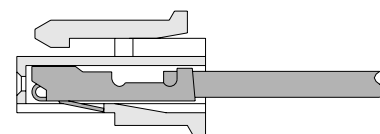
To crimp lead wires into contacts, strip off 4mm [0.16in.] of the insulation from the end of the lead wire, insert it into the contact, and crimp it. Be sure to avoid catching the insulation on the exposed wire crimping section.



Attaching and removing contact and connector

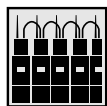
Insert the contact with lead wire into a plug connector hole until the contact hook latches on the connector and is secured to the plug connector. Confirm that the lead wire cannot be easily pulled out.

To remove it, insert a tool with a fine tip (such as a small screwdriver) into the rectangular hole on the side of the plug connector to push up on the hook, and then pull out the lead wire.



- Cautions:**
1. Do not pull hard on the lead wire. It could result in defective contacts, shorted lines, etc.
 2. If the pin is bent, use a small screwdriver, etc. to gently straighten out the pin, and then complete the connection to the plug connector.
 3. For crimping of connecting lead wire and contact, always use a dedicated crimping tool.
Contact: Model 706312-2MK
Manufactured by Sumiko Tech, Inc.
Crimping tool: Model F1
(for 706312-2MK)
Manufactured by Sumiko Tech, Inc.

Handling Instructions and Precautions

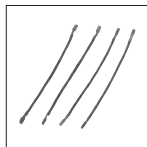


Lead wire for common wiring (only lead wire)

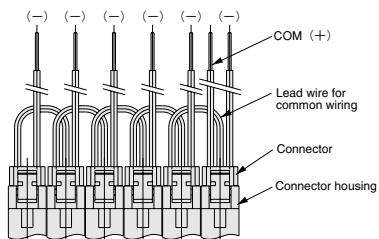
Using the lead wire for common wiring, provided as additional parts, saves wiring work.

Order code

G010-COM

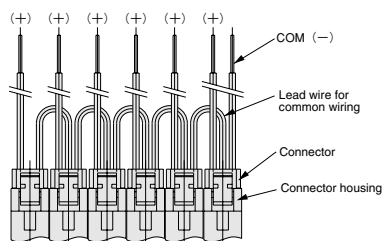


1. Wiring example of DC positive side and AC common terminal

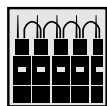


Shows polarity in DC case

2. Wiring example of DC negative side common terminal



- Cautions:**
1. The diagrams show the straight connector configuration.
 2. Since the COM terminal is connected to a crossover terminal inside the connector housing, the connector cannot be switched between a positive common and a negative common wiring by changing the connectors.



Common pre-wired lead wire assembly

Order code

CR1652W —



Common specifications
Blank — Positive common
M — Negative common

Lead wire length
Blank — 300mm [11.8in.]
1 — 1000mm [39in.]
3 — 3000mm [118in.]

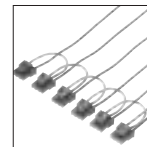
Outlet position of common wiring

S — The type PS is **stn.1** side, the type PL is final **stn.** side.
E — The type PS is final **stn.** side, the type PL is **stn.1** side.

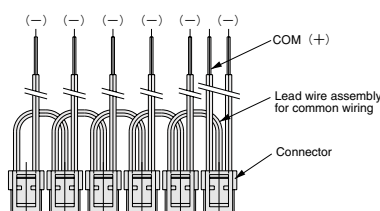
Number of wiring units

2 : 2 units
20 : 20 units

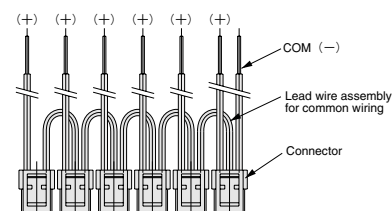
Common pre-wired lead wire assembly



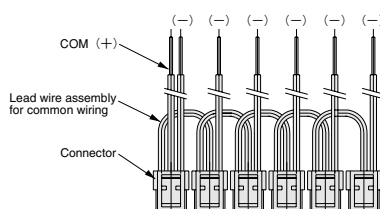
1. For CR1652W-6E□



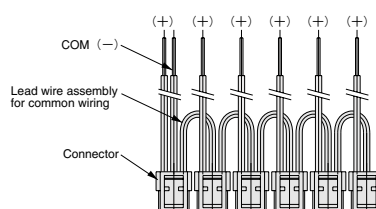
2. For CR1652W-6E□M



3. For CR1652W-6S□



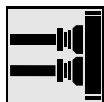
4. For CR1652W-6S□M



Caution: Since the COM terminal is connected to a crossover terminal inside the connector housing, the connector cannot be switched between a positive common and a negative common wiring by changing the connectors.

Number of valves which can be energized simultaneously with common wiring

Voltage	Model		
	G010		
	E1	LE1	HE1
DC5,6V	6	12	—
DC12V	12	20	4
DC24V	20	20	8
AC100V	20	—	—
AC200V	20	—	—



Fittings

Recommended fittings

G(V) 010 □ E1-21

Connection port		2(A) port	1(P), 3(R) port
Fitting			
Quick fitting		TS4-M3M TS3-M3M TSH4-M3M TSH3-M3M TL4-M3M TL3-M3M	—
TAC fitting	For urethane tube	BF4BU-M3 BF3BU-M3	BF4BU-M3 BF3BU-M3
	For nylon tube	BF4-M3	BF4-M3

GA(V) 010 □ E1-25

Connection port		2(A) port	1(P), 3(R) port
Fitting			
Quick fitting		TS4-M5M TSH4-M5M TL4-M5M TLL4-M5M	TS4-M5M TSH4-M5M TL4-M5M TLL4-M5M
TAC fitting	For urethane tube	BF4BU BF3BU	BF4BU BF3BU
	For nylon tube	BF4	BF4

SOLENOID VALVES

G010 SERIES

Specifications

Basic Models and Functions

Item	Basic model	For direct piping, F type manifold ^{Note1}			For A type manifold ^{Note2}		
		G010E1(-11) GV010E1(-11) (standard)	G010LE1(-11) GV010LE1(-11) (low current)	G010HE1(-11) GV010HE1(-11) (large flow)	GA010E1(-11) GAV010E1(-11) (standard)	GA010LE1(-11) GAV010LE1(-11) (low current)	GA010HE1(-11) GAV010HE1(-11) (large flow)
Number of positions		2 positions					
Number of ports		2, 3 ports					
Valve function		Normally closed (NC, standard) or normally open (NO, option)					

Remark: For optional specifications and order code, see p. 45~46.

Notes: 1. When using the G010□E1, GV010□E1 as a single unit, select it with a mounting base.

2. When using the GA010□E1, GAV010□E1 as a single unit, select it with a sub-base.

Specifications (Positive Pressure)

Basic model		Direct piping, F type manifold			A type manifold		
		G010E1 (standard)	G010LE1 (low current)	G010HE1 (large flow)	GA010E1 (standard)	GA010LE1 (low current)	GA010HE1 (large flow)
Item							
Media		Air					
Operation type		Direct acting type					
Effective area [Cv] Note 1 mm ²	1 (P)→2 (A)	0.2 [0.011]	0.1 [0.006]	0.45 [0.025]	0.2 [0.011]	0.1 [0.006]	0.45 [0.025]
	2 (A)→3 (R)	0.3 [0.017]	0.2 [0.011]	0.6 [0.033]	0.3 [0.017]	0.2 [0.011]	0.6 [0.033]
Port size Note 2		M3×0.5			M5×0.8		
Lubrication		Not required					
Operating pressure range MPa {kgf/cm ² } [psi.]		0~0.7 {0~7.1} [0~102]					
Proof pressure MPa {kgf/cm ² } [psi.]		1.05 {10.7} [152]					
Response time Note3 ON/OFF ms		4/8	5/10	3/6	4/8	5/10	3/6
Maximum operating frequency Hz		5					
Operating temp. range (atmosphere and media) °C [°F] Note4		5~50 [41~122]					
Shock resistance m/s ² [G]		1373.0 {140.0} (Axial direction 196.2 {20.0})					
Rated voltage Note 5		(DC5V,DC6V) DC12V,DC24V AC100V,(AC200V)	(DC5V,DC6V) DC12V,DC24V	(DC12V) DC24V	(DC5V,DC6V) DC12V,DC24V AC100V,(AC200V)	(DC5V,DC6V) DC12V,DC24V	(DC12V) DC24V
Mounting direction		Any					

Basic model		Direct piping, F type manifold			A type manifold		
		G010E1-11 (standard)	G010LE1-11 (low current)	G010HE1-11 (large flow)	GA010E1-11 (standard)	GA010LE1-11 (low current)	GA010HE1-11 (large flow)
Item							
Media		Air					
Operation type		Direct acting type					
Effective area [Cv] ^{Note 1} mm ²	2 (A)→1 (P)	0.3 [0.017]	0.15 [0.008]	0.55 [0.031]	0.3 [0.017]	0.15 [0.008]	0.55 [0.031]
	3 (R)→2 (A)	0.2 [0.011]	0.1 [0.006]	0.45 [0.025]	0.2 [0.011]	0.1 [0.006]	0.45 [0.025]
Port size ^{Note 2}		M3×0.5			M5×0.8		
Lubrication		Not required					
Operating pressure range MPa {kgf/cm ² } [psi.]		0~0.7 {0~7.1} [0~102]		0~0.5 {0~5.1} [0~73]	0~0.7 {0~7.1} [0~102]		0~0.5 {0~5.1} [0~73]
Proof pressure MPa {kgf/cm ² } [psi.]		1.05 {10.7} [152]					
Response time ^{Note 3} ON/OFF ms		4/8	5/10	3/6	4/8	5/10	3/6
Maximum operating frequency Hz		5					
Operating temp. range (atmosphere and media) °C [°F] ^{Note4}		5~50 [41~122]					
Shock resistance m/s ² [G]		1373.0 {140.0} (Axial direction 196.2 {20.0})					
Rated voltage ^{Note 5}		(DC5V,DC6V) DC12V,DC24V AC100V,(AC200V)	(DC5V,DC6V) DC12V,DC24V	(DC12V) DC24V	(DC5V,DC6V) DC12V,DC24V AC100V,(AC200V)	(DC5V,DC6V) DC12V,DC24V	(DC12V) DC24V
Mounting direction		Any					
Air supply port		3(R) port					

Notes: 1. For details, see the effective area on p.43.

2. For details, see the port size on p.43.

3. Values when air pressure is 0.5MPa {5.1kgf/cm²} [73psi.]. Due to switching phase timing, add a maximum of 5ms to the AC response time.

4. Provide heat radiation measures to ensure that the ambient temperature (or when used in a control box, the internal temperature of the box) always remains within the temperature range specifications.
And for long-time continuous energizing, consult us.

5. Values in parentheses () are for made to order items. See the corresponding table of solenoid options/voltage on p.50.

Specifications (Vacuum)

Basic model		Direct piping, F type manifold			A type manifold			
		GV010E1 (standard)	GV010LE1 (low current)	GV010HE1 (large flow)	GAV010E1 (standard)	GAV010LE1 (low current)	GAV010HE1 (large flow)	
Item								
Media		Air						
Operation type		Direct acting type						
Effective area [Cv] Note 1 mm ²	1 (P)→2 (A)	0.3 [0.017]	0.15 [0.008]	0.55 [0.031]	0.3 [0.017]	0.15 [0.008]	0.55 [0.031]	
	2 (A)→3 (R)	0.2 [0.011]	0.1 [0.006]	0.45 [0.025]	0.2 [0.011]	0.1 [0.006]	0.45 [0.025]	
Port size Note 2		M3×0.5			M5×0.8			
Lubrication		Not required						
Operating pressure range MPa {kgf/cm ² } [psi.]	1 (P) port	−100kPa~0 {−750.1mmHg~0} [−29.53in.Hg~0]						
	3 (R) port	0~0.5 {0~5.1} [0~73]		0~0.4 {0~4.1} [0~58]	0~0.5 {0~5.1} [0~73]		0~0.4 {0~4.1} [0~58]	
Proof pressure MPa {kgf/cm ² } [psi.]		1.05 [10.7] [152]						
Response time Note 3 ON/OFF ms		4/8	5/10	3/6	4/8	5/10	3/6	
Maximum operating frequency Hz		5						
Operating temp. range (atmosphere and media) °C [°F] Note 4		5~50 [41~122]						
Shock resistance m/s ² [G]		1373.0 {140.0} (Axial direction 196.2 {20.0})						
Rated voltage Note 5		(DC5V,DC6V) DC12V,DC24V AC100V,(AC200V)	(DC5V,DC6V) DC12V,DC24V	(DC12V) DC24V	(DC5V,DC6V) DC12V,DC24V AC100V,(AC200V)	(DC5V,DC6V) DC12V,DC24V	(DC12V) DC24V	
Mounting direction		Any						
Air supply port	Vacuum	1(P) port						
	Positive pressure	3(R) port						

Basic model		Direct piping, F type manifold			A type manifold		
		GV010E1-11 (standard)	GV010LE1-11 (low current)	GV010HE1-11 (large flow)	GAV010E1-11 (standard)	GAV010LE1-11 (low current)	GAV010HE1-11 (large flow)
Item							
Media		Air					
Operation type		Direct acting type					
Effective area [Cv] Note 1 mm ²	2 (A)→1 (P)	0.2 [0.011]	0.1 [0.006]	0.45 [0.025]	0.2 [0.011]	0.1 [0.006]	0.45 [0.025]
	3 (R)→2 (A)	0.3 [0.017]	0.2 [0.011]	0.6 [0.033]	0.3 [0.017]	0.2 [0.011]	0.6 [0.033]
Port size ^{Note 2}		M3×0.5			M5×0.8		
Lubrication		Not required					
Operating pressure range MPa {kgf/cm ² } [psi.]	1 (P) port	0~0.5 {0~5.1} [0~73]		0~0.4 {0~4.1} [0~58]	0~0.5 {0~5.1} [0~73]		0~0.4 {0~4.1} [0~58]
	3 (R) port	-100kPa~0 {-750.1mmHg~0} [-29.53in.Hg~0]					
Proof pressure	MPa {kgf/cm ² } [psi.]	1.05 {10.7} [152]					
Response time ^{Note 3} ON/OFF	ms	4/8	5/10	3/6	4/8	5/10	3/6
Maximum operating frequency	Hz	5					
Operating temp. range (atmosphere and media)	°C [°F] ^{Note 4}	5~50 [41~122]					
Shock resistance	m/s ² [G]	1373.0 {140.0} (Axial direction 196.2 {20.0})					
Rated voltage ^{Note 5}		(DC5V,DC6V) DC12V,DC24V AC100V,(AC200V)	(DC5V,DC6V) DC12V,DC24V	(DC12V) DC24V	(DC5V,DC6V) DC12V,DC24V AC100V,(AC200V)	(DC5V,DC6V) DC12V,DC24V	(DC12V) DC24V
Mounting direction		Any					
Air supply port	Vacuum	3(R) port					
	Positive pressure	1(P) port					

Notes: 1. For details, see the effective area on p.43.

2. For details, see the port size on p.43.

3. Values when air pressure is 0.5MPa {5.1kgf/cm²} [73psi.]. Due to the switching phase timing, add a maximum of 5ms to the AC response time.

4. Provide heat radiation measures to ensure that the ambient temperature (or when used in a control box, the internal temperature of the box) always remains within the temperature range specifications.
And for long-time continuous energizing, consult us.

5. Values in parentheses () are for made to order items. See the corresponding table of solenoid options/voltage on p.50.

Mass

Solenoid Valve Mass

g [oz.]

Basic model	Mass
G (V) 010E1	14.6 [0.515] (16.8 [0.593]) ^{Note 1}
G (V) 010LE1	14.6 [0.515] (16.8 [0.593]) ^{Note 1}
G (V) 010HE1	15.3 [0.540] (17.5 [0.617]) ^{Note 1}
GA (V) 010E1	14.2 [0.501] (26.2 [0.924]) ^{Note 2}
GA (V) 010LE1	14.2 [0.501] (26.2 [0.924]) ^{Note 2}
GA (V) 010HE1	14.8 [0.522] (26.8 [0.945]) ^{Note 2}

Notes: 1. Figures in parentheses () are the mass with mounting base: -21.

2. Figures in parentheses () are the mass with sub-base: -25.

Manifold Mass

g [oz.]

Manifold model	Mass calculation of each unit (n=number of units)	Block-off plate
G010M□F	(7×n) + 9 [(0.247×n) + 0.317]	1 [0.035]
G010M□A	(7×n) + 9 [(0.247×n) + 0.317]	1 [0.035]
G010MH□F	(7.2×n) + 33 [(0.254×n) + 1.164]	1 [0.035]
G010MH□A	(7.2×n) + 33 [(0.254×n) + 1.164]	1 [0.035]

Solenoid Specifications

Rated voltage		DC5V	DC6V	DC12V	DC24V	AC100V Note	AC200V Note	
Item								
Operating voltage range		V	4.5~5.5 (5±10%)	5.4~6.6 (6±10%)	10.8~13.2 (12±10%)	21.6~26.4 (24±10%)	90~110 (100±10%)	180~220 (200±10%)
G(A)(V)010E1	Current (when rated voltage is applied) mA(r.m.s)	200	168	84	42	11	8	
	Power consumption	1.0W				1.1VA	1.6VA	
	Allowable leakage current mA	2.0				1.0		
G(A)(V)010LE1	Current (when rated voltage is applied) mA(r.m.s)	100	84	42	21	_____		
	Power consumption	0.5W				_____		
	Allowable leakage current mA	1.0				_____		
G(A)(V)010HE1	Current (when rated voltage is applied)	Starting mA	_____		267	133	_____	
		Holding mA	_____		92	46	_____	
	Power consumption	Starting W	_____		3.2		_____	
		Holding W	_____		1.1		_____	
	Allowable leakage current mA	_____		10	5	_____		
	Start-up time (standard time) ms	_____		48	27	_____		
	Insulation resistance	MΩ	Over 100					
Wiring type and lead wire length		Grommet type: 300mm [11.8in.], Plug connector type: 300mm [11.8in.]						
Color of lead wire		Red (+), Black (-)				Yellow	White	
Color of LED indicator		Red						
Surge suppression (as standard)		Flywheel diode				Bridge diode		

Note: Since the AC types have built-in bridge diodes, the starting current value and energizing current value are virtually the same. In addition, the rated frequencies are 50Hz and 60Hz. Specification values are the same for both.

Effective Area [Cv]

		mm ²	
Basic model	Standard (Single valve)	Remarks	
G010E1 (-11)	1(P)→2(A) 0.2[0.011] (2(A)→1(P) 0.3[0.017]) 2(A)→3(R) 0.3[0.017] (3(R)→2(A) 0.2[0.011])	- For the case with quick fitting TSH4-M3M attached to the 1(P) and 2(A) ports on the mounting base. - Same values as for the case with quick fitting TSH4-M3M attached to the 2(A) port on F type manifold.	
G010LE1 (-11)	1(P)→2(A) 0.1 [0.006] (2(A)→1(P) 0.15 [0.008]) 2(A)→3(R) 0.2 [0.011] (3(R)→2(A) 0.1 [0.006])		
G010HE1 (-11)	1(P)→2(A) 0.45 [0.025] (2(A)→1(P) 0.55 [0.031]) 2(A)→3(R) 0.6 [0.033] (3(R)→2(A) 0.45 [0.025])		
GV010E1 (-11)	1(P)→2(A) 0.3 [0.017] (2(A)→1(P) 0.2 [0.011]) 2(A)→3(R) 0.2 [0.011] (3(R)→2(A) 0.3 [0.017])		
GV010LE1 (-11)	1(P)→2(A) 0.15 [0.008] (2(A)→1(P) 0.1 [0.006]) 2(A)→3(R) 0.1 [0.006] (3(R)→2(A) 0.2 [0.011])		
GV010HE1 (-11)	1(P)→2(A) 0.55 [0.031] (2(A)→1(P) 0.45 [0.025]) 2(A)→3(R) 0.45 [0.025] (3(R)→2(A) 0.6 [0.033])		
GA010E1 (-11)	1(P)→2(A) 0.2 [0.011] (2(A)→1(P) 0.3 [0.017]) 2(A)→3(R) 0.3 [0.017] (3(R)→2(A) 0.2 [0.011])	For the case with quick fitting TSH4-M5M attached to the 1(P) and 2(A) ports on the mounting sub-base.	
GA010LE1 (-11)	1(P)→2(A) 0.1 [0.006] (2(A)→1(P) 0.15 [0.008]) 2(A)→3(R) 0.2 [0.011] (3(R)→2(A) 0.1 [0.006])		
GA010HE1 (-11)	1(P)→2(A) 0.45 [0.025] (2(A)→1(P) 0.55 [0.031]) 2(A)→3(R) 0.6 [0.033] (3(R)→2(A) 0.45 [0.025])		
GAV010E1 (-11)	1(P)→2(A) 0.3 [0.017] (2(A)→1(P) 0.2 [0.011]) 2(A)→3(R) 0.2 [0.011] (3(R)→2(A) 0.3 [0.017])		
GAV010LE1 (-11)	1(P)→2(A) 0.15 [0.008] (2(A)→1(P) 0.1 [0.006]) 2(A)→3(R) 0.1 [0.006] (3(R)→2(A) 0.2 [0.011])		
GAV010HE1 (-11)	1(P)→2(A) 0.55 [0.031] (2(A)→1(P) 0.45 [0.025]) 2(A)→3(R) 0.45 [0.025] (3(R)→2(A) 0.6 [0.033])		

Remark: Figures in parentheses () are for the normally open (NO) type.

Port Size

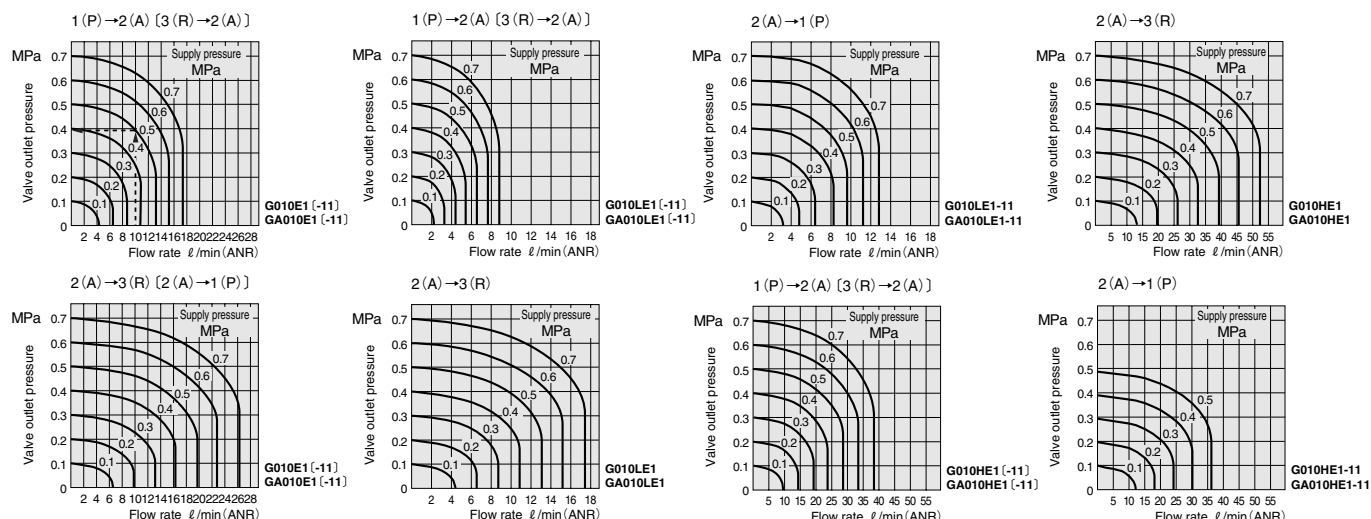
Solenoid Valve Port Size (With Base)

Basic model	Port	Location of piping ports	Port size
G (V) 010E1-21 G (V) 010LE1-21 G (V) 010HE1-21	1(P),3(R) 2(A)	Mounting base Valve	M3×0.5 M3×0.5
GA (V) 010E1-25 GA (V) 010LE1-25 GA (V) 010HE1-25	1(P),2(A),3(R)	Sub-base	M5×0.8

Manifold Port Size

Manifold model	Port	Location of piping ports	Port size
G010M□F	1(P),3(R)	Manifold	M5×0.8
	2(A)	Valve	M3×0.5
G010M□A	1(P),3(R)	Manifold	M5×0.8
	2(A)		M3×0.5
G010MH□F	1(P),3(R)	Manifold	Rc1/8
	2(A)	Valve	M3×0.5
G010MH□A	1(P),3(R)	Manifold	Rc1/8
	2(A)		M5×0.8

Flow Rate



1MPa = 145psi., 1 ℓ /min = 0.0353ft.³/min.

Note: **0.6MPa [73psi.]** and **0.7MPa [102psi.]** are not available for **G010HE1-11, GA010HE1-11.**

How to read the graph (for G_{010E1} , $1(P) \rightarrow 2(A)$)

When the supply pressure is 0.5MPa [73psi.] and flow rate is 10 ℓ /min [0.35ft³/min.] (ANR), the valve outlet pressure becomes 0.39MPa [57psi.].

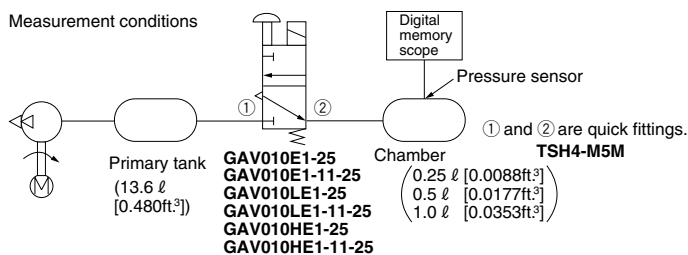
Figures in brackets [] indicate the normally open (NO) type.

Air Supply Time and Exhaust Time

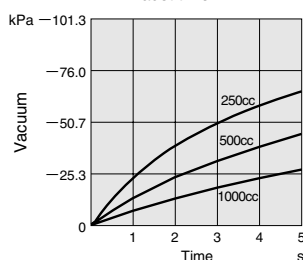
How to read the graph

Exhaust time: Time required for chamber interior to convert from atmospheric pressure state to vacuum state.

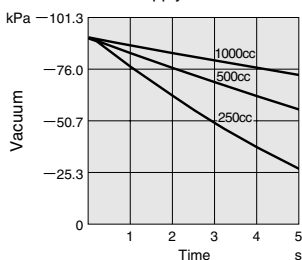
Air supply time: Time required for chamber interior to convert from -100kPa [-29.53in.Hg] to atmospheric pressure state.



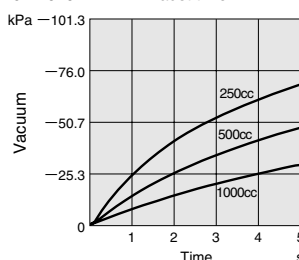
GAV010E1 Exhaust time



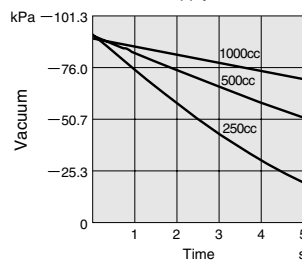
GAV010E1 Air supply time



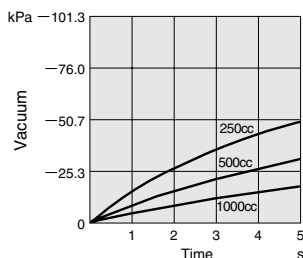
GAV010E1-11 Exhaust time



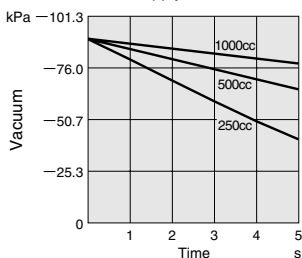
GAV010E1-11 Air supply time



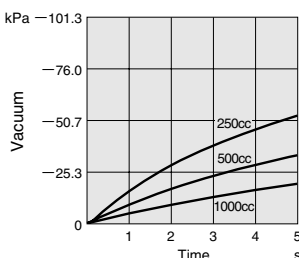
GAV010LE1 Exhaust time



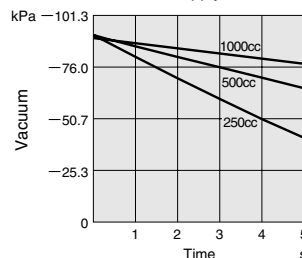
GAV010LE1 Air supply time



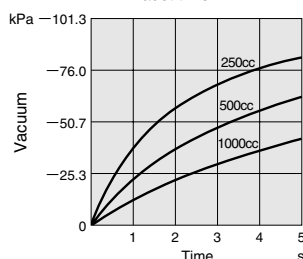
GAV010LE1-11 Exhaust time



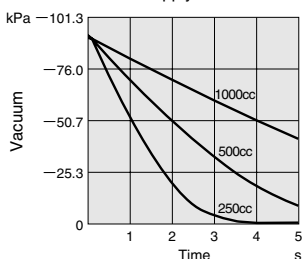
GAV010LE1-11 Air supply time



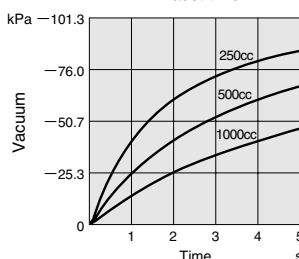
GAV010HE1 Exhaust time



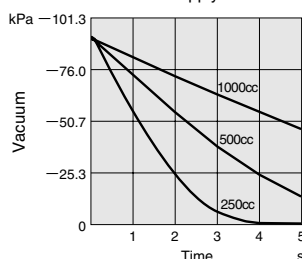
GAV010HE1 Air supply time



GAV010HE1-11 Exhaust time



GAV010HE1-11 Air supply time



$-100\text{kPa} = -29.53\text{in.Hg}$, $250\text{cc} = 0.0088\text{ft}^3$, $500\text{cc} = 0.0177\text{ft}^3$, $1000\text{cc} = 0.0353\text{ft}^3$

G010 Series Solenoid Valve Order Codes

		2-, 3-port valve Number of ports	2-, 3-port valve Valve function	Mounting base	Sub-base	Wiring type		
		3-port Blank	Blank Normally closed (NC) -11 Normally open (NO) Note: For the piping, see table on p.37.	Without mounting base Blank	Without sub-base Blank	Blank		
		2-port -2		With mounting base -21 ● Attached to a valve body at shipping.	With sub-base -25 ● Attached to a valve body at shipping.	Straight connector with LED indicator -PS L connector with LED indicator -PL		
		Basic model					Voltage	
Direct piping	Positive pressure	2-, 3-port standard type	G010E1	-2	-11 Note 2	-21 Note 1	-PS -PL	DC12V, DC24V, AC100V
		2-, 3-port low current type	G010LE1					DC12V, DC24V
		2-, 3-port large flow type	G010HE1					DC24V
	Vacuum	2-, 3-port standard type	GV010E1					DC12V, DC24V, AC100V
		2-, 3-port low current type	GV010LE1					DC12V, DC24V
		2-, 3-port large flow type	GV010HE1					DC24V
Sub-base piping	Positive pressure	2-, 3-port standard type	GA010E1	-2	-11 Note 2	-25 Note 1	-PS -PL	DC12V, DC24V, AC100V
		2-, 3-port low current type	GA010LE1					DC12V, DC24V
		2-, 3-port large flow type	GA010HE1					DC24V
	Vacuum	2-, 3-port standard type	GAV010E1					DC12V, DC24V, AC100V
		2-, 3-port low current type	GAV010LE1					DC12V, DC24V
		2-, 3-port large flow type	GAV010HE1					DC24V

Notes: 1. If using the solenoid valve as a single unit, always select it either with mounting base or with sub-base.

2. Normally closed (NC) and normally open (NO) valves cannot be mounted together on the same manifold.

Made to Order (After the wiring order code, enter the codes below.)

Straight connector with LED indicator Negative common -MS		L connector with LED indicator Negative common -ML		Lead wire length -1L -3L ● For plug connector ● Length -1L: 1000 [39in.] (mm) -3L: 3000 [118in.]		Voltage specifications ● G□010E1: DC5V, DC6V, AC200V ● G□010LE1: DC5V, DC6V ● G□010HE1: DC12V ● For AC110V~120V, AC220V~240V specifications, consult us.	
Straight connector with LED indicator (Without connector, contact and lead wire) Negative common -MSX	Straight connector with LED indicator (Without connector, contact and lead wire) Positive common -PSX	L connector with LED indicator (Without connector, contact and lead wire) Negative common -MLX	L connector with LED indicator (Without connector, contact and lead wire) Positive common -PLX	Straight connector with LED indicator (Connector, contact included.) Without lead wire. Negative common -MSN	Straight connector with LED indicator (Connector, contact included.) Without lead wire. Positive common -PSN	L connector with LED indicator (Connector, contact included.) Without lead wire. Negative common -MLN	L connector with LED indicator (Connector, contact included.) Without lead wire. Positive common -PLN

2-, 3-port valve Number of ports			2-, 3-port valve Valve function			Wiring type			
3-port 2(A) 1(P) 3(R) Blank			Blank Normally closed (NC) -11 Normally open (NO) Note: For the piping, see table on p.37.			Lead wire length: 300mm [11.8in.] is standard. Grommet type Blank Straight connector with LED indicator -PS L connector with LED indicator -PL			
2-port 2(A) 1(P) -2									
Manifold model Number of units			Station	Basic model			Voltage		
P, R port (M5×0.8) type	G010M	2 ⋮ 20	F	stn. ☐ ⋮ stn. ☐	-G010E1	-2	-11	-PS -PL	DC12V, DC24V, AC100V
					-G010LE1				DC12V, DC24V
					-G010HE1				DC24V
					-GV010E1				DC12V, DC24V, AC100V
					-GV010LE1				DC12V, DC24V
					-GV010HE1				DC24V
					-GA010E1				DC12V, DC24V, AC100V
					-GA010LE1				DC12V, DC24V
					-GA010HE1				DC24V
					-GAV010E1				DC12V, DC24V, AC100V
					-GAV010LE1				DC12V, DC24V
					-GAV010HE1				DC24V
P, R port (Rc1/8) type	G010MH	2 ⋮ 20	F	stn. ☐ ⋮ stn. ☐	-G010E1	-2	-11	-PS -PL	DC12V, DC24V, AC100V
					-G010LE1				DC12V, DC24V
					-G010HE1				DC24V
					-GV010E1				DC12V, DC24V, AC100V
					-GV010LE1				DC12V, DC24V
					-GV010HE1				DC24V
					-GA010E1				DC12V, DC24V, AC100V
					-GA010LE1				DC12V, DC24V
					-GA010HE1				DC24V
					-GAV010E1				DC12V, DC24V, AC100V
					-GAV010LE1				DC12V, DC24V
					-GAV010HE1				DC24V

● Valve mounting location from the left-hand side when facing the 2(A) port (□: 1~20)

● Specify the valve type for each station.

● Enter -BP when closing a station with a block-off plate without mounting a valve.

● Normally closed (NC) and normally open (NO) valves cannot be mounted together on the same manifold.

Additional Parts (To be ordered separately)

Mounting base



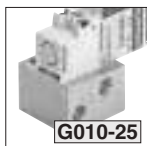
● For direct piping (With gasket)

Mounting base



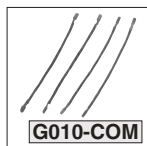
● For direct piping. For G010HE1-11, GV010HE1 only (With gasket).

Sub-base



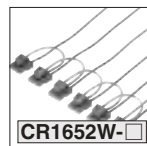
● For sub-base piping (With gasket)

Lead wire for common wiring



● For -PS, -PL, -MS, -ML (Set of 10 pcs.)

Common pre-wired lead wire assembly

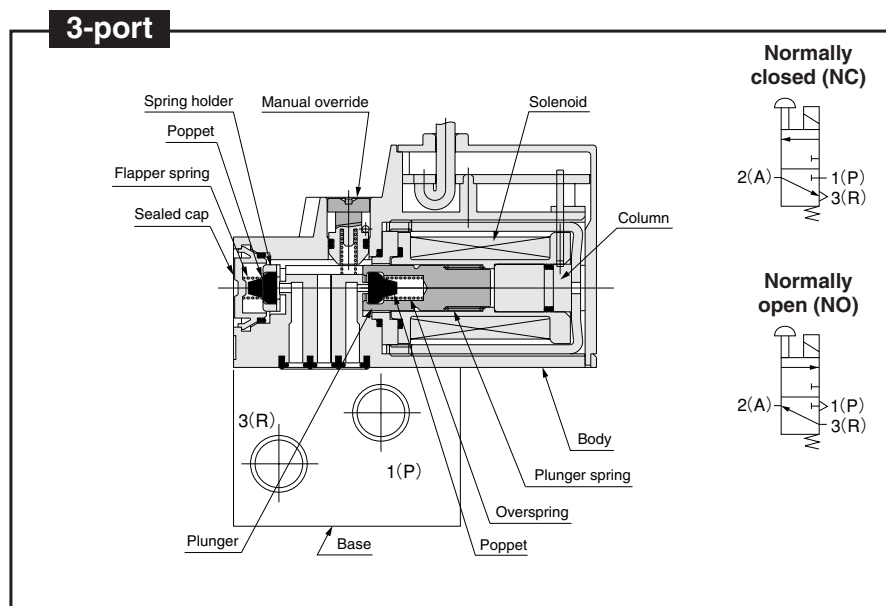


● For details, see p.39.

Block-off plate



Operating Principles and Symbols



Major Parts and Materials

	Parts	Materials
Valve	Body	Plastic
	Poppet	Synthetic rubber
	Plunger	Magnetic stainless steel
	Column	
	Base	Aluminum alloy (anodized)
Manifold	Body	Aluminum alloy (anodized)
	Block-off plate	Plastic
	Seal	Synthetic rubber

Corresponding Table of Mounting Valve/Manifold

Valve specifications				Valve options				Applicable manifolds			
Piping configuration	Basic model	Power	Flow rate	-2 (2-port)	-11 Note 1 (Normally open, NO)	-21 (Mounting base)	-25 (Sub-base)	G010M□F	G010M□A	G010MH□F	G010MH□A
Direct piping	G010E1	1.0W	Standard	●	●	●		●		●	
	G010LE1	0.5W	Small flow	●	●	●		●		●	
	G010HE1	3.2W (1.1W) ^{Note2}	Large flow	●	●	●		●		●	
	GV010E1	1.0W	Standard	●	●	●		●		●	
	GV010LE1	0.5W	Small flow	●	●	●		●		●	
	GV010HE1	3.2W (1.1W) ^{Note2}	Large flow	●	●	●		●		●	
Base piping	GA010E1	1.0W	Standard	●	●		●		●		●
	GA010LE1	0.5W	Small flow	●	●		●		●		●
	GA010HE1	3.2W (1.1W) ^{Note2}	Large flow	●	●		●		●		●
	GAV010E1	1.0W	Standard	●	●		●		●		●
	GAV010LE1	0.5W	Small flow	●	●		●		●		●
	GAV010HE1	3.2W (1.1W) ^{Note2}	Large flow	●	●		●		●		●
2(A) port								(M3)	M3	(M3)	M5
1(P), 3(R) port								M5	M5	Rc1/8	Rc1/8

●: Selectable or mountable

Notes: 1. Care should be taken when ordering, since the initial settings for the normally closed (NC) and normally open (NO) valves cannot be changed later on.

Normally closed (NC) and normally open (NO) valves cannot be mounted together on the same manifold.

2. Values in parentheses () in power column are for holding state.

Dimensions of Direct Piping Solenoid Valve (mm)

G010E1(-11)-21 (DC5V, DC6V, DC12V, DC24, AC100V)



G010E1

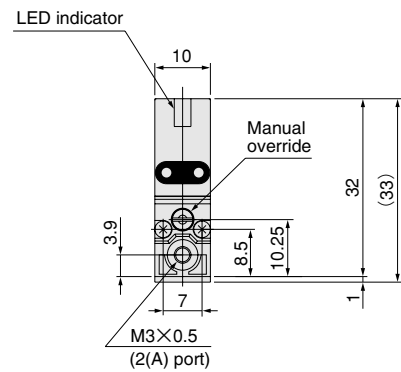
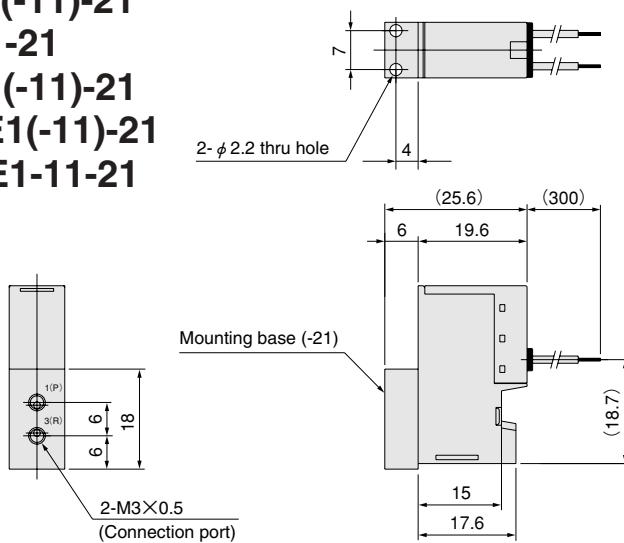
G010LE1(-11)-21

G010HE1-21

GV010E1(-11)-21

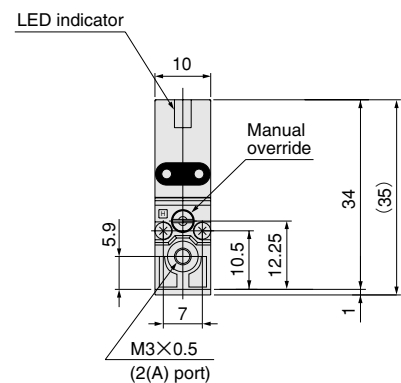
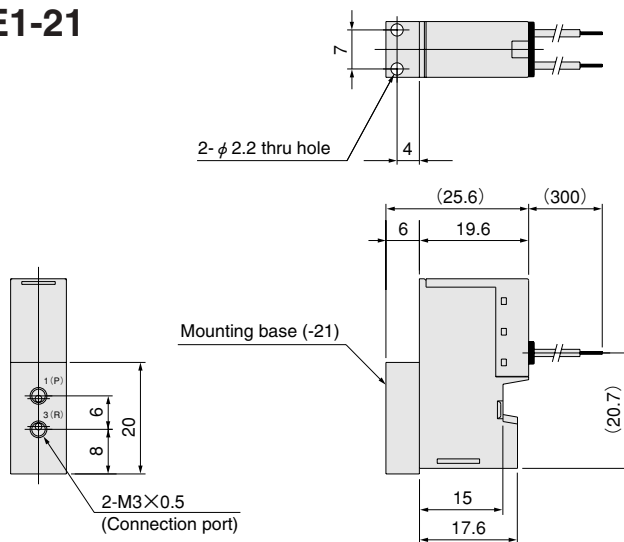
GV010LE1(-11)-21

GV010HE1-11-21



G010HE1-11-21 (DC24V)

GV010HE1-21

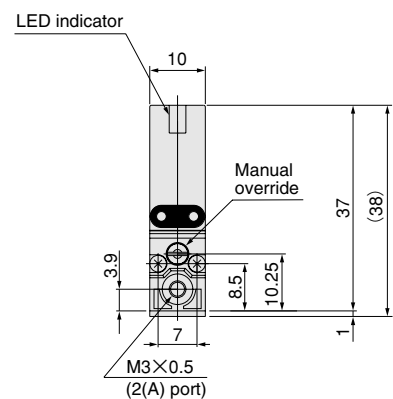
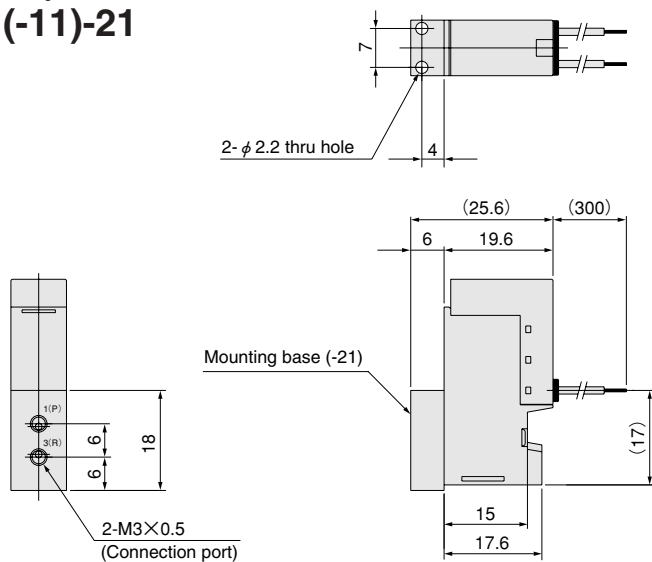


G010E1(-11)-21 (AC200V)

GV010E1(-11)-21



G010E1_2



Dimensions of Sub-base Piping Solenoid Valve (mm)

GA010E1(-11)-25 (DC5V, DC6V, DC12V, DC24V, AC100V)



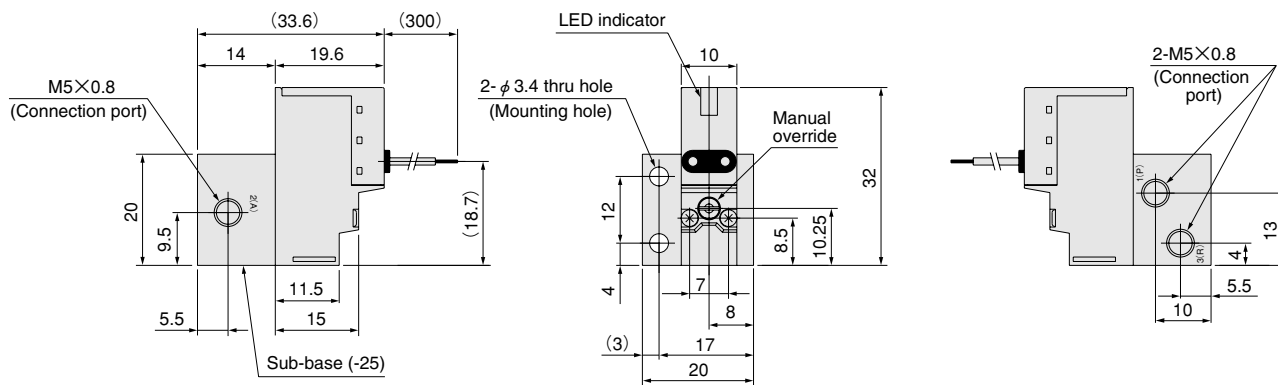
GA010LE1(-11)-25

GA010HE1-25

GAV010E1(-11)-25

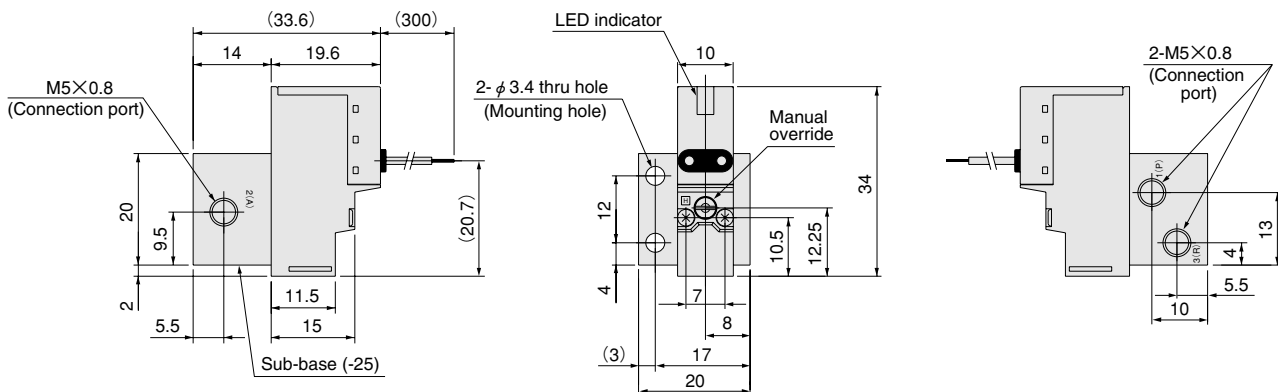
GAV010LE1(-11)-25

GAV010HE1-11-25



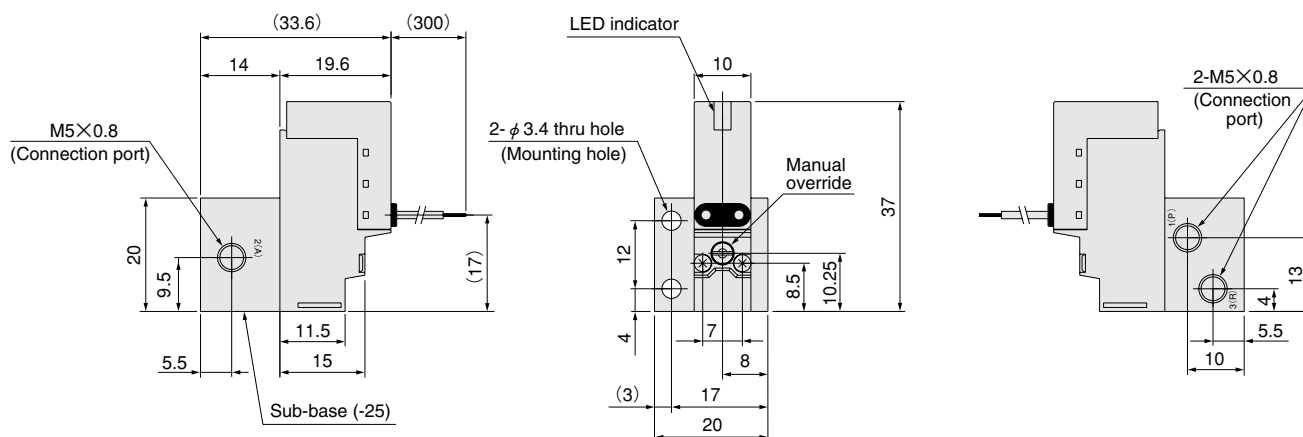
GA010HE1-11-25 (DC24V)

GAV010HE1-25



GA010E1(-11)-25 (AC200V)

GAV010E1(-11)-25



Dimensions of Connector (mm)

Options

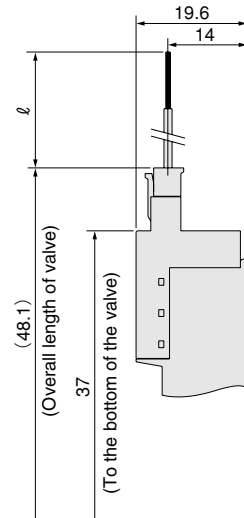
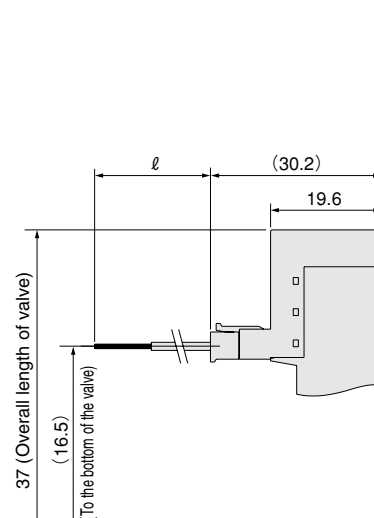
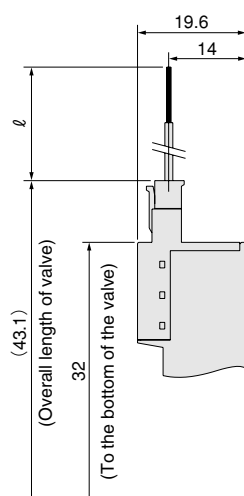
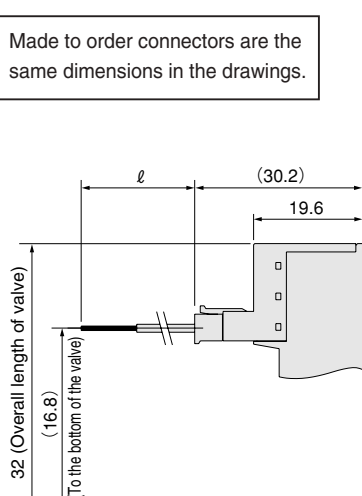
● Solenoid with L connector:
connector: **-PL**
G010E1PL

● Solenoid with straight connector:
connector: **-PS**
G010E1PS

● Solenoid with L connector
(AC200V): **-PL**
G010E1L2

● Solenoid with straight connector
(AC200V): **-PS**
G010E1P2

Made to order connectors are the same dimensions in the drawings.



Model	Code	ℓ
Blank		300
-1L		1000
-3L		3000

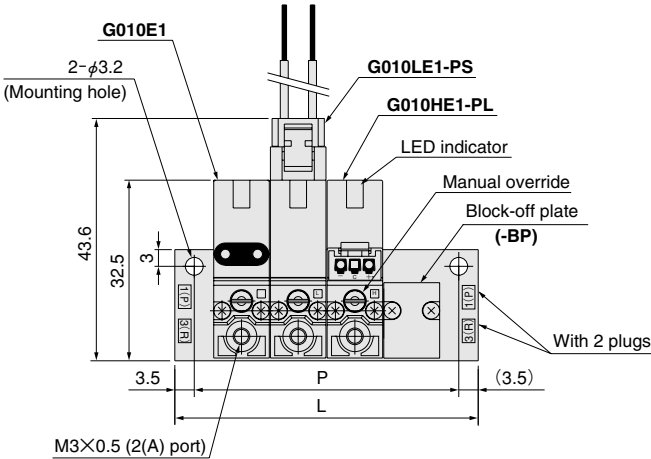
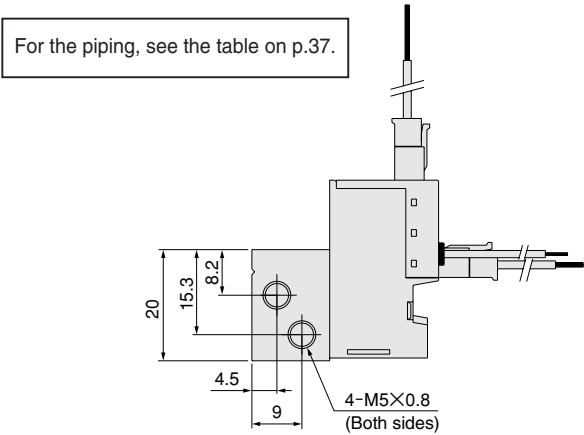
Corresponding Table of Solenoid Options/Voltage

Basic valve models	Voltage specifications	Connector specifications												
		Blank (grommet)	-PS	-PL	-MS	-ML	-PSX	-PLX	-MSX	-MLX	-PSN	-PLN	-MSN	-MLN
G(A)010E1 [-11] G(A)V010E1 [-11] (standard type)	DC5V	△	△	△	△	△	△	△	△	△	△	△	△	△
	DC6V	△	△	△	△	△	△	△	△	△	△	△	△	△
	DC12V	●	●	●	△	△	△	△	△	△	△	△	△	△
	DC24V	●	●	●	△	△	△	△	△	△	△	△	△	△
	AC100V	●	●	●	△	△	△	△	△	△	△	△	△	△
	AC200V	△	△	△	△	△	△	△	△	△	△	△	△	△
G(A)010LE1 [-11] G(A)V010LE1 [-11] (low current type)	DC5V	△	△	△	△	△	△	△	△	△	△	△	△	△
	DC6V	△	△	△	△	△	△	△	△	△	△	△	△	△
	DC12V	●	●	●	△	△	△	△	△	△	△	△	△	△
	DC24V	●	●	●	△	△	△	△	△	△	△	△	△	△
G(A)010HE1 [-11] G(A)V010HE1 [-11] (large flow type)	DC12V	△	△	△	△	△	△	△	△	△	△	△	△	△
	DC24V	●	●	●	△	△	△	△	△	△	△	△	△	△
Lead wire length options same for all basic models	-1L	△	△	△	△	△	△	△	△	△	△	△	△	△
	-3L	△	△	△	△	△	△	△	△	△	△	△	△	△

●: Standard specifications △: Made to order

Dimensions of F Type Manifold (for Direct Piping with Positive Pressure Solenoid Valves) (mm)

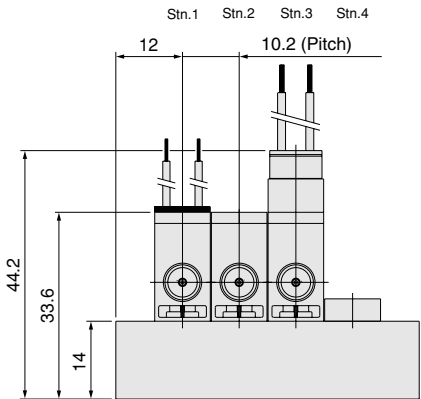
G010M□F (1(P), 3(R) port: M5×0.8)



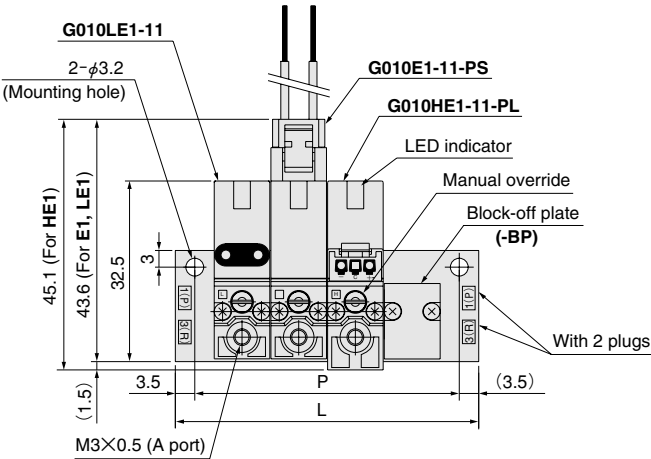
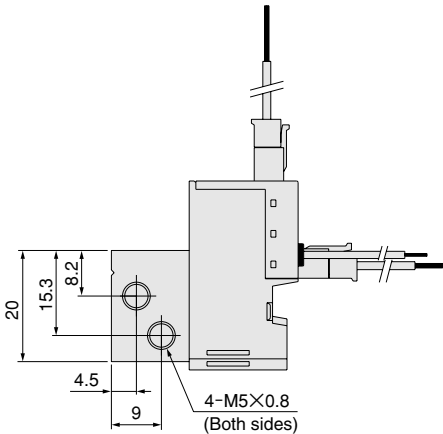
Unit dimensions

mm

Number of units	L	P	Number of units	L	P
2	34.2	27.2	12	136.2	129.2
3	44.4	37.4	13	146.4	139.4
4	54.6	47.6	14	156.6	149.6
5	64.8	57.8	15	166.8	159.8
6	75	68	16	177	170
7	85.2	78.2	17	187.2	180.2
8	95.4	88.4	18	197.4	190.4
9	105.6	98.6	19	207.6	200.6
10	115.8	108.8	20	217.8	210.8
11	126	119	—	—	—



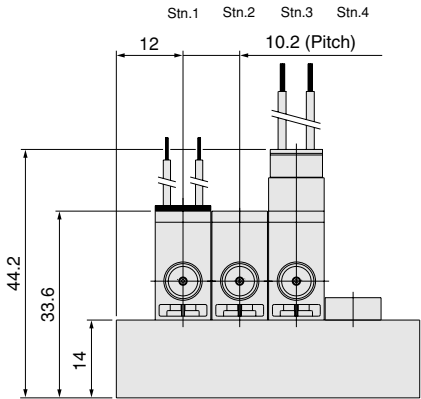
G010M□F (1(P), 3(R) port: M5×0.8)



Unit dimensions

mm

Number of units	L	P	Number of units	L	P
2	34.2	27.2	12	136.2	129.2
3	44.4	37.4	13	146.4	139.4
4	54.6	47.6	14	156.6	149.6
5	64.8	57.8	15	166.8	159.8
6	75	68	16	177	170
7	85.2	78.2	17	187.2	180.2
8	95.4	88.4	18	197.4	190.4
9	105.6	98.6	19	207.6	200.6
10	115.8	108.8	20	217.8	210.8
11	126	119	—	—	—

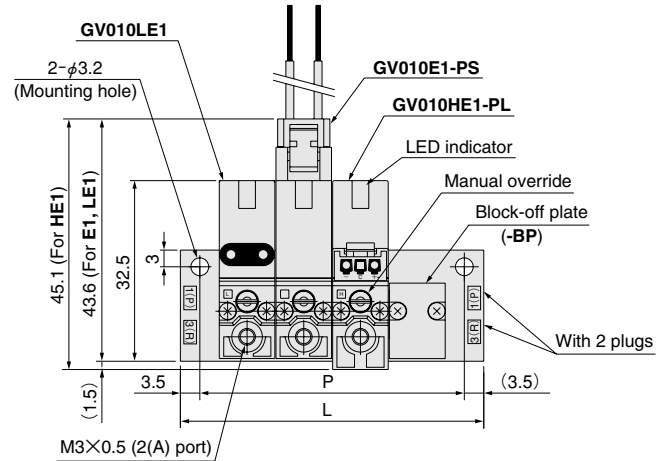
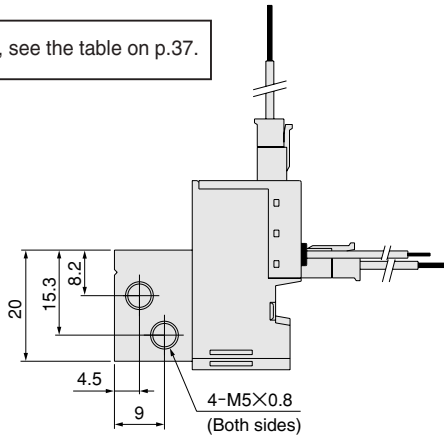


For optional wiring, see p.50.

Dimensions of F Type Manifold (for Direct Piping with Vacuum Solenoid Valves) (mm)

G010M□F (1(P), 3(R) port: M5×0.8)

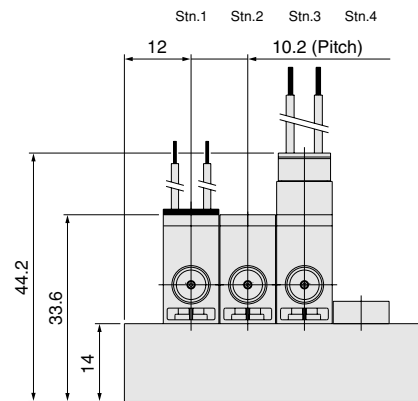
For the piping, see the table on p.37.



Unit dimensions

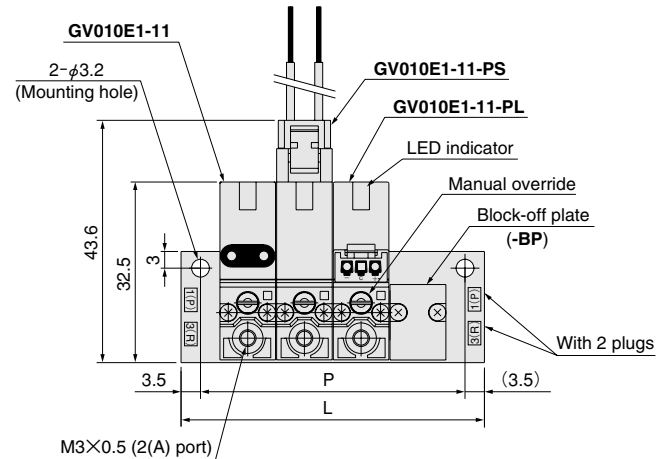
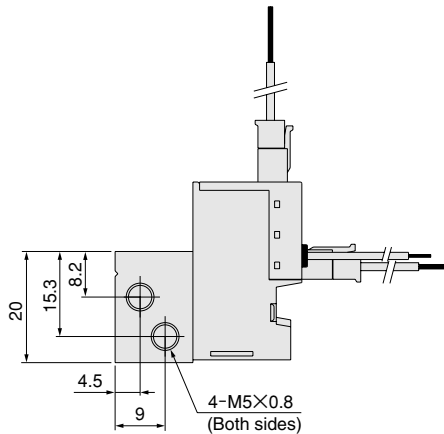
mm

Number of units	L	P	Number of units	L	P
2	34.2	27.2	12	136.2	129.2
3	44.4	37.4	13	146.4	139.4
4	54.6	47.6	14	156.6	149.6
5	64.8	57.8	15	166.8	159.8
6	75	68	16	177	170
7	85.2	78.2	17	187.2	180.2
8	95.4	88.4	18	197.4	190.4
9	105.6	98.6	19	207.6	200.6
10	115.8	108.8	20	217.8	210.8
11	126	119	—	—	—



G010M□F (1(P), 3(R) port: M5×0.8)

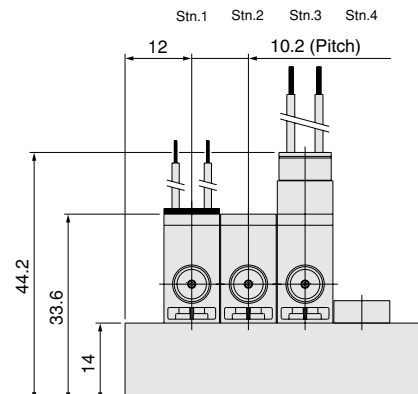
G010MF



Unit dimensions

mm

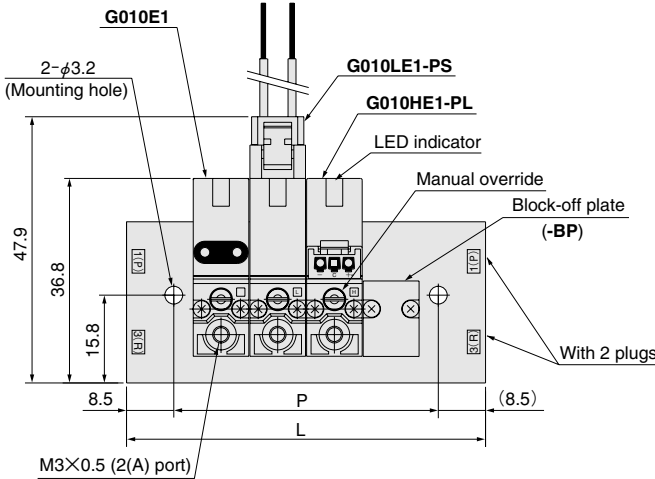
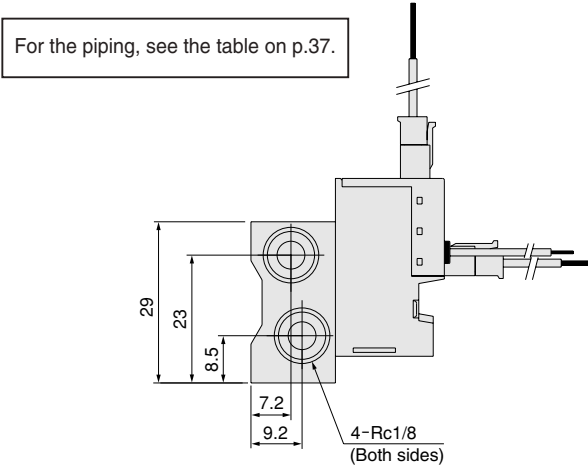
Number of units	L	P	Number of units	L	P
2	34.2	27.2	12	136.2	129.2
3	44.4	37.4	13	146.4	139.4
4	54.6	47.6	14	156.6	149.6
5	64.8	57.8	15	166.8	159.8
6	75	68	16	177	170
7	85.2	78.2	17	187.2	180.2
8	95.4	88.4	18	197.4	190.4
9	105.6	98.6	19	207.6	200.6
10	115.8	108.8	20	217.8	210.8
11	126	119	—	—	—



For optional wiring, see p.50.

Dimensions of F Type Manifold (for Direct Piping with Positive Pressure Solenoid Valves) (mm)

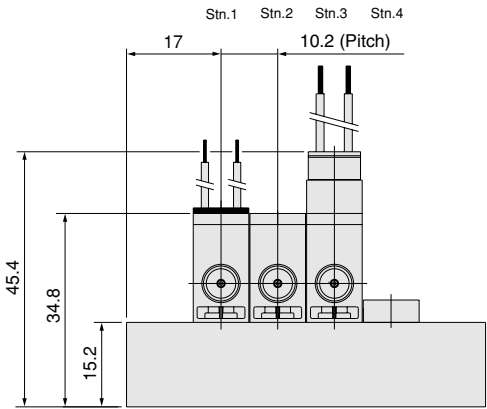
G010MH□F (1(P), 3(R) port: Rc1/8)



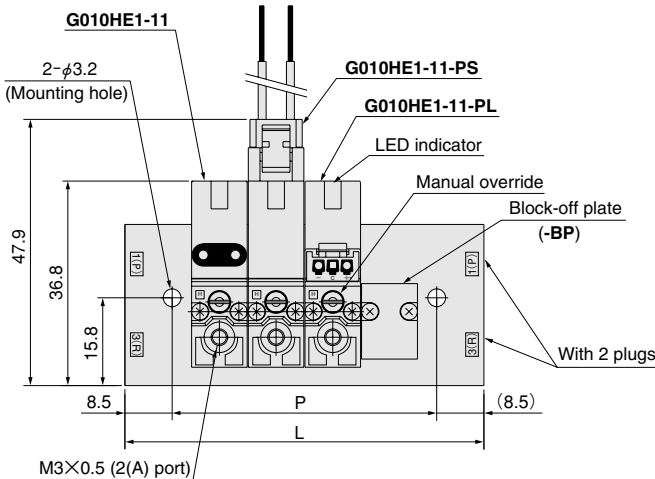
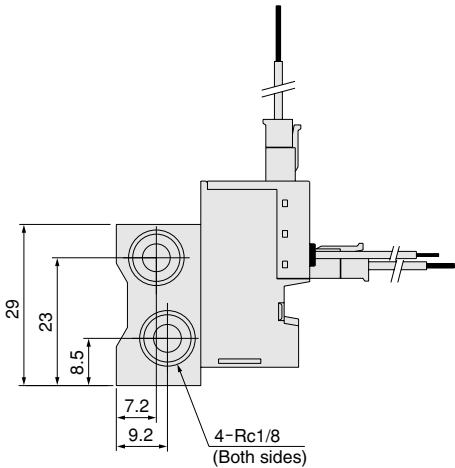
Unit dimensions

mm

Number of units	L	P	Number of units	L	P
2	44.2	27.2	12	146.2	129.2
3	54.4	37.4	13	156.4	139.4
4	64.6	47.6	14	166.6	149.6
5	74.8	57.8	15	176.8	159.8
6	85	68	16	187	170
7	95.2	78.2	17	197.2	180.2
8	105.4	88.4	18	207.4	190.4
9	115.6	98.6	19	217.6	200.6
10	125.8	108.8	20	227.8	210.8
11	136	119	—	—	—



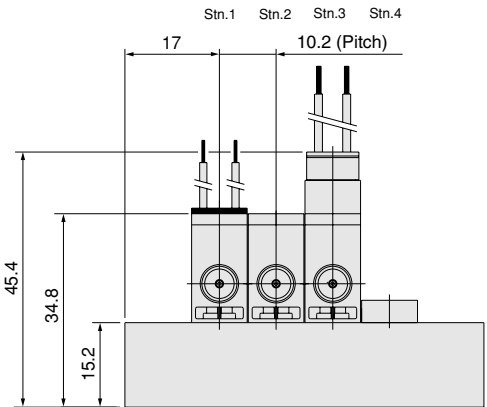
G010MH□F (1(P), 3(R) port: Rc1/8)



Unit dimensions

mm

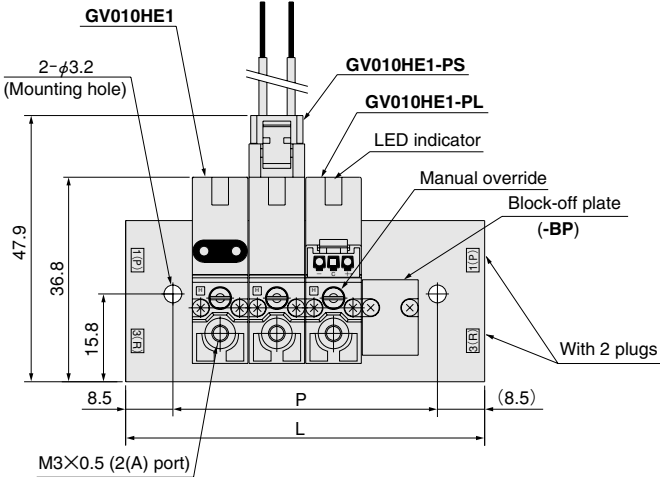
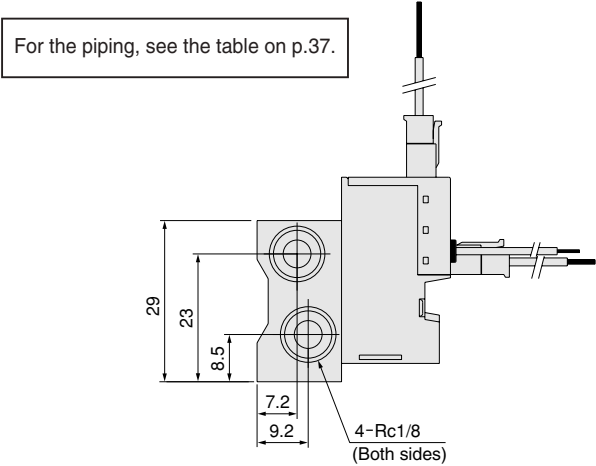
Number of units	L	P	Number of units	L	P
2	44.2	27.2	12	146.2	129.2
3	54.4	37.4	13	156.4	139.4
4	64.6	47.6	14	166.6	149.6
5	74.8	57.8	15	176.8	159.8
6	85	68	16	187	170
7	95.2	78.2	17	197.2	180.2
8	105.4	88.4	18	207.4	190.4
9	115.6	98.6	19	217.6	200.6
10	125.8	108.8	20	227.8	210.8
11	136	119	—	—	—



For optional wiring, see p.50.

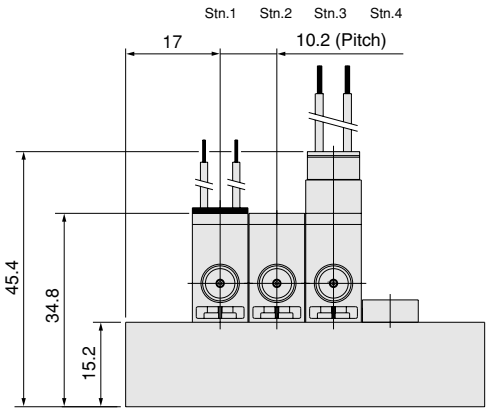
Dimensions of F type Manifold (for Direct Piping with Vacuum Solenoid Valves) (mm)

G010MH□F (1(P), 3(R) port: Rc1/8)

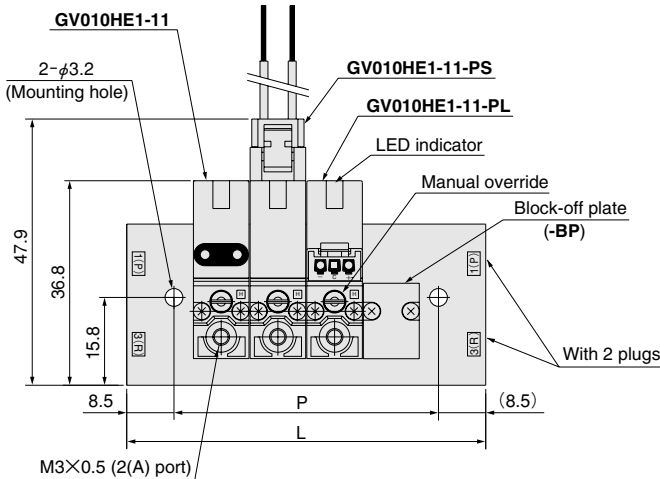
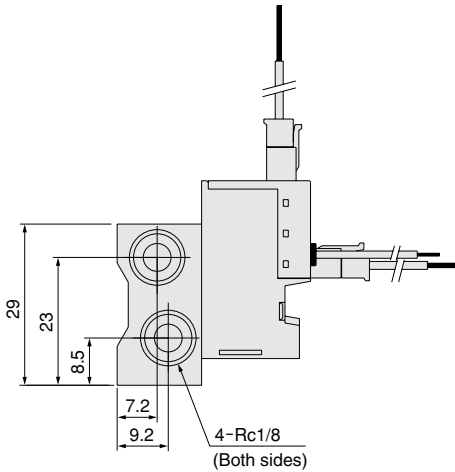


Unit dimensions

mm					
Number of units	L	P	Number of units	L	P
2	44.2	27.2	12	146.2	129.2
3	54.4	37.4	13	156.4	139.4
4	64.6	47.6	14	166.6	149.6
5	74.8	57.8	15	176.8	159.8
6	85	68	16	187	170
7	95.2	78.2	17	197.2	180.2
8	105.4	88.4	18	207.4	190.4
9	115.6	98.6	19	217.6	200.6
10	125.8	108.8	20	227.8	210.8
11	136	119	—	—	—

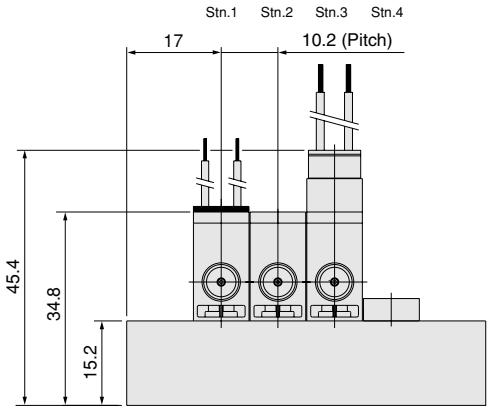


G010MH□F (1(P), 3(R) port: Rc1/8)



Unit dimensions

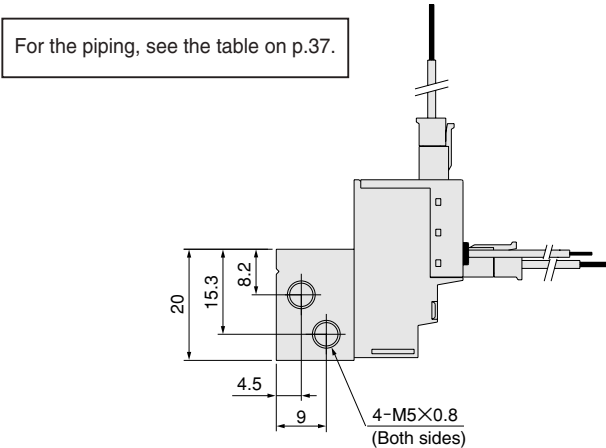
mm					
Number of units	L	P	Number of units	L	P
2	44.2	27.2	12	146.2	129.2
3	54.4	37.4	13	156.4	139.4
4	64.6	47.6	14	166.6	149.6
5	74.8	57.8	15	176.8	159.8
6	85	68	16	187	170
7	95.2	78.2	17	197.2	180.2
8	105.4	88.4	18	207.4	190.4
9	115.6	98.6	19	217.6	200.6
10	125.8	108.8	20	227.8	210.8
11	136	119	—	—	—



For optional wiring, see p.50.

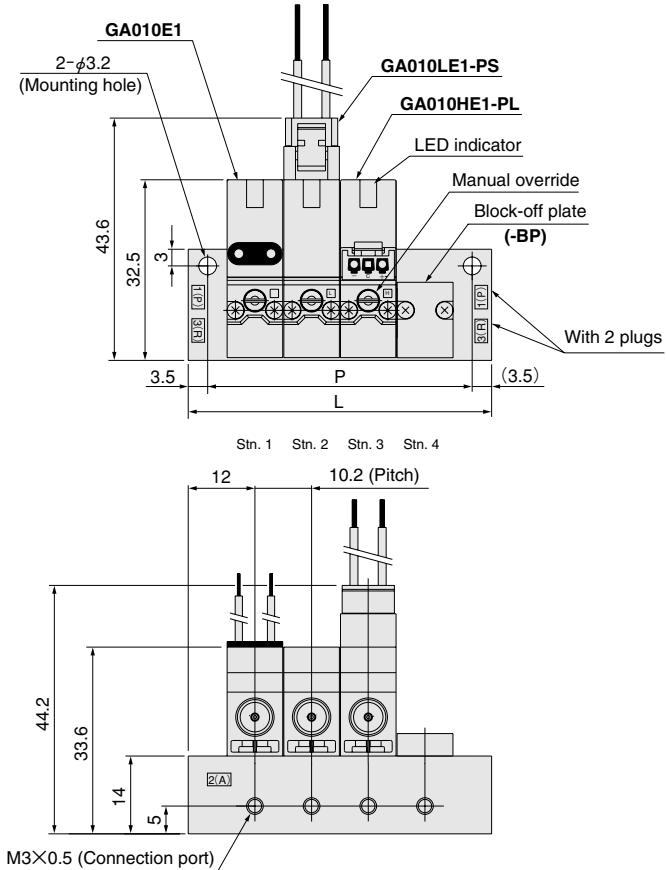
Dimensions of A Type Manifold (for Manifold Piping with Positive Pressure Solenoid Valves) (mm)

G010M□A (1(P), 3(R) port: M5×0.8)

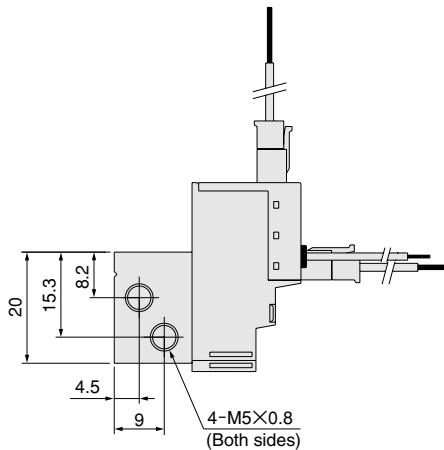


Unit dimensions

mm					
Number of units	L	P	Number of units	L	P
2	34.2	27.2	12	136.2	129.2
3	44.4	37.4	13	146.4	139.4
4	54.6	47.6	14	156.6	149.6
5	64.8	57.8	15	166.8	159.8
6	75	68	16	177	170
7	85.2	78.2	17	187.2	180.2
8	95.4	88.4	18	197.4	190.4
9	105.6	98.6	19	207.6	200.6
10	115.8	108.8	20	217.8	210.8
11	126	119	—	—	—

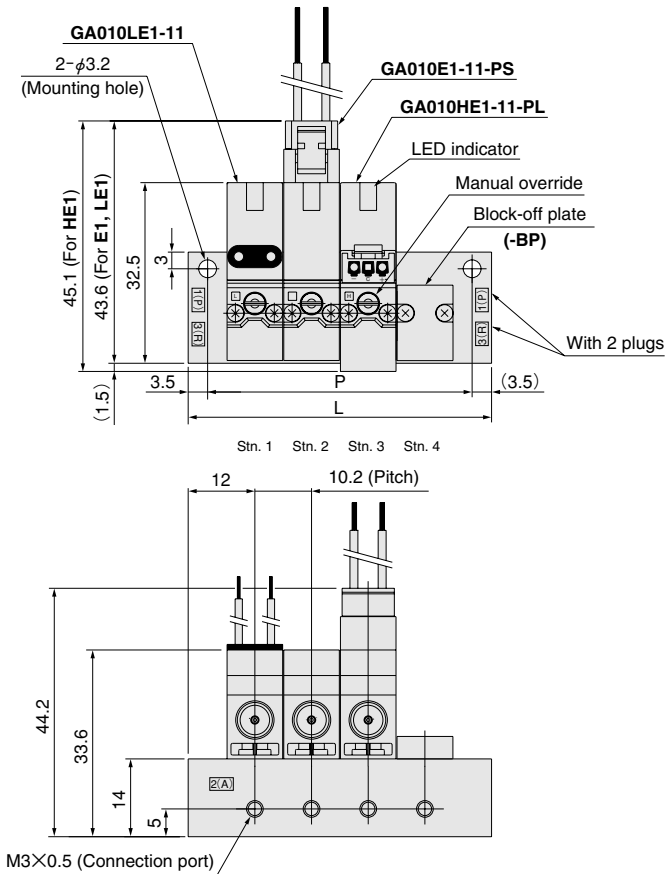


G010M□A (1(P), 3(R) port: M5×0.8)



Unit dimensions

mm					
Number of units	L	P	Number of units	L	P
2	34.2	27.2	12	136.2	129.2
3	44.4	37.4	13	146.4	139.4
4	54.6	47.6	14	156.6	149.6
5	64.8	57.8	15	166.8	159.8
6	75	68	16	177	170
7	85.2	78.2	17	187.2	180.2
8	95.4	88.4	18	197.4	190.4
9	105.6	98.6	19	207.6	200.6
10	115.8	108.8	20	217.8	210.8
11	126	119	—	—	—



For optional wiring, see p.50.

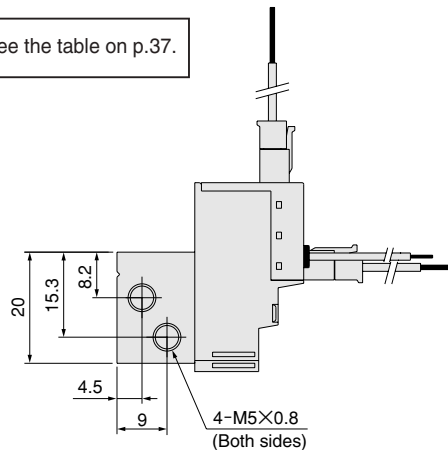
Dimensions of A Type Manifold (for Manifold Piping with Vacuum Solenoid Valves) (mm)

G010M□A (1(P), 3(R) port: M5×0.8)



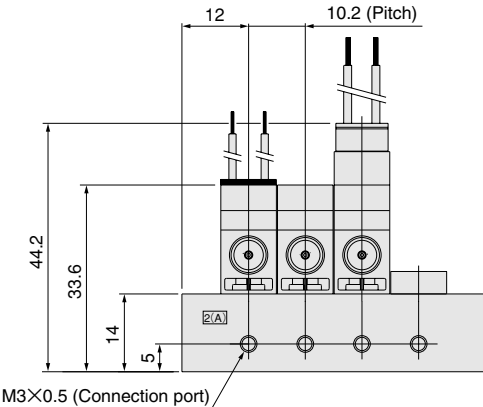
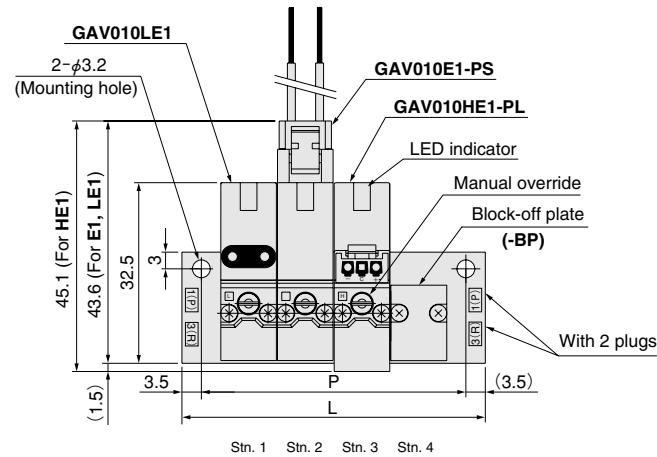
G010MA

For the piping, see the table on p.37.

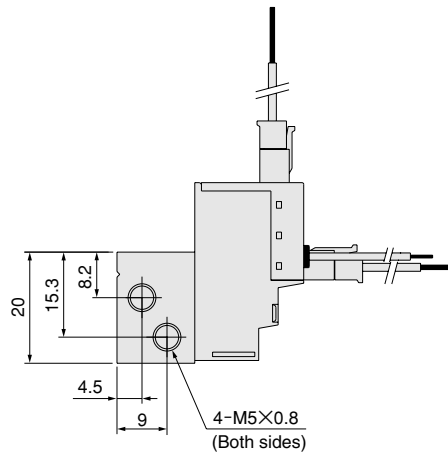


Unit dimensions

mm					
Number of units	L	P	Number of units	L	P
2	34.2	27.2	12	136.2	129.2
3	44.4	37.4	13	146.4	139.4
4	54.6	47.6	14	156.6	149.6
5	64.8	57.8	15	166.8	159.8
6	75	68	16	177	170
7	85.2	78.2	17	187.2	180.2
8	95.4	88.4	18	197.4	190.4
9	105.6	98.6	19	207.6	200.6
10	115.8	108.8	20	217.8	210.8
11	126	119	—	—	—

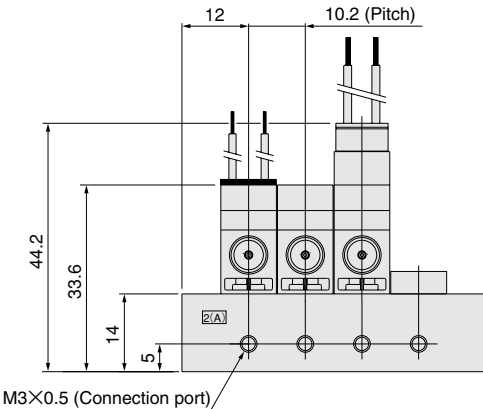
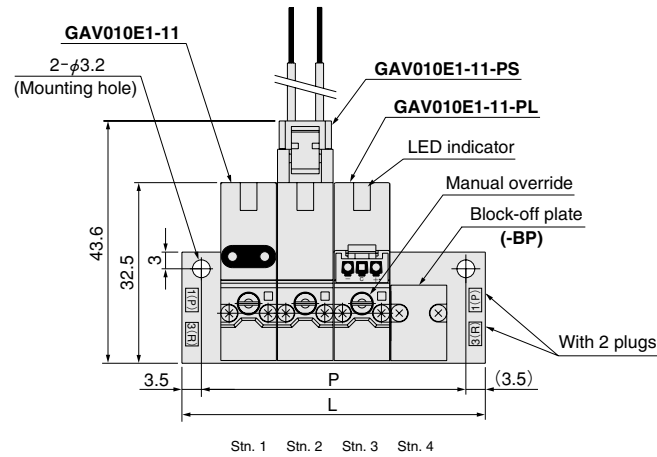


G010M□A (1(P), 3(R) port: M5×0.8)



Unit dimensions

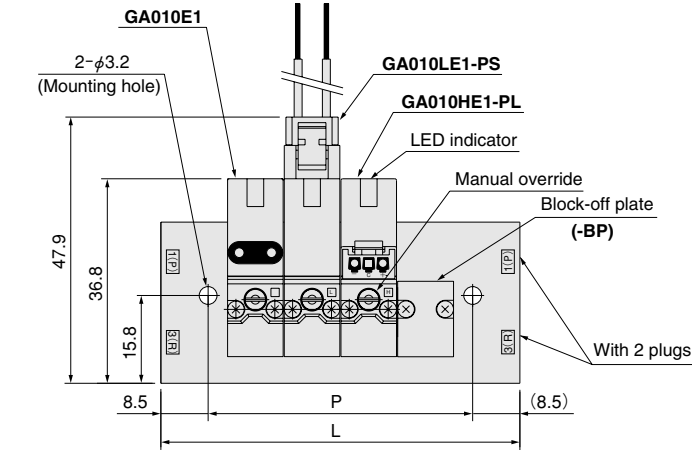
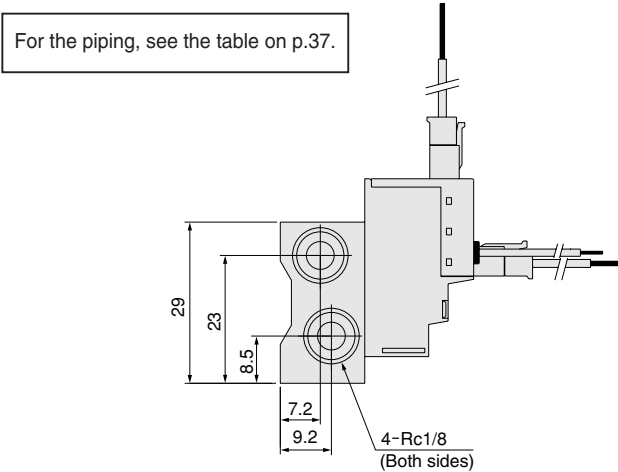
mm					
Number of units	L	P	Number of units	L	P
2	34.2	27.2	12	136.2	129.2
3	44.4	37.4	13	146.4	139.4
4	54.6	47.6	14	156.6	149.6
5	64.8	57.8	15	166.8	159.8
6	75	68	16	177	170
7	85.2	78.2	17	187.2	180.2
8	95.4	88.4	18	197.4	190.4
9	105.6	98.6	19	207.6	200.6
10	115.8	108.8	20	217.8	210.8
11	126	119	—	—	—



For optional wiring, see p.50.

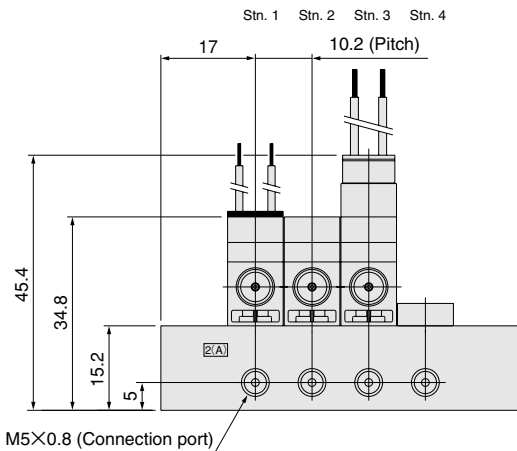
Dimensions of A Type Manifold (for Manifold Piping with Positive Pressure Solenoid Valves) (mm)

G010MH□A (1(P), 3(R) port: Rc1/8)

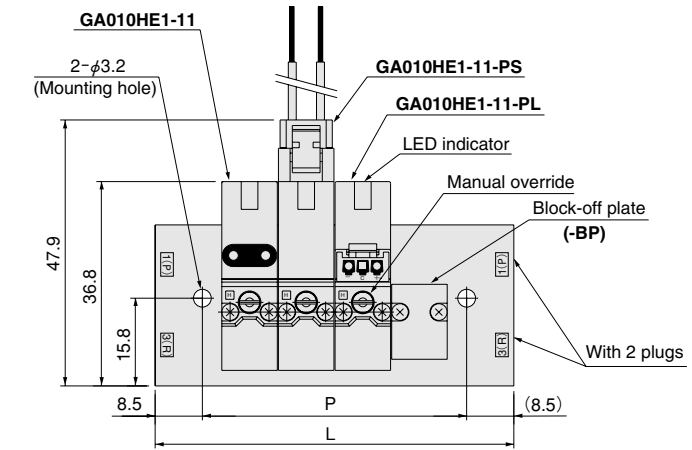
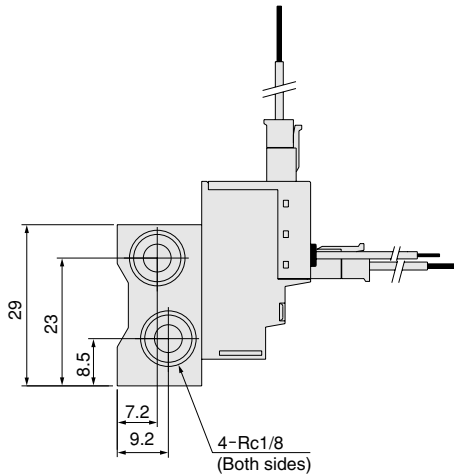


Unit dimensions

mm					
Number of units	L	P	Number of units	L	P
2	44.2	27.2	12	146.2	129.2
3	54.4	37.4	13	156.4	139.4
4	64.6	47.6	14	166.6	149.6
5	74.8	57.8	15	176.8	159.8
6	85	68	16	187	170
7	95.2	78.2	17	197.2	180.2
8	105.4	88.4	18	207.4	190.4
9	115.6	98.6	19	217.6	200.6
10	125.8	108.8	20	227.8	210.8
11	136	119	—	—	—

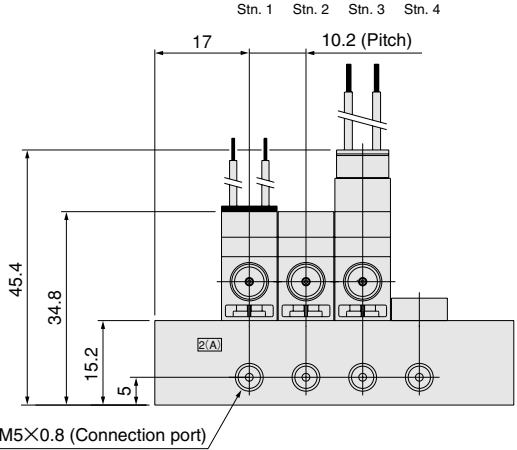


G010MH□A (1(P), 3(R) port: Rc1/8)



Unit dimensions

mm					
Number of units	L	P	Number of units	L	P
2	44.2	27.2	12	146.2	129.2
3	54.4	37.4	13	156.4	139.4
4	64.6	47.6	14	166.6	149.6
5	74.8	57.8	15	176.8	159.8
6	85	68	16	187	170
7	95.2	78.2	17	197.2	180.2
8	105.4	88.4	18	207.4	190.4
9	115.6	98.6	19	217.6	200.6
10	125.8	108.8	20	227.8	210.8
11	136	119	—	—	—



For optional wiring, see p.50.

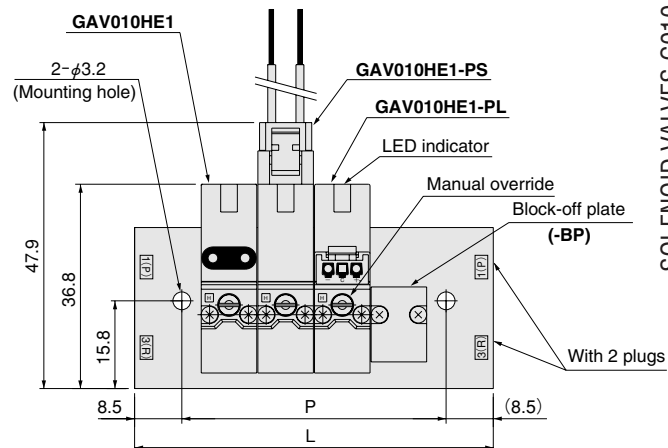
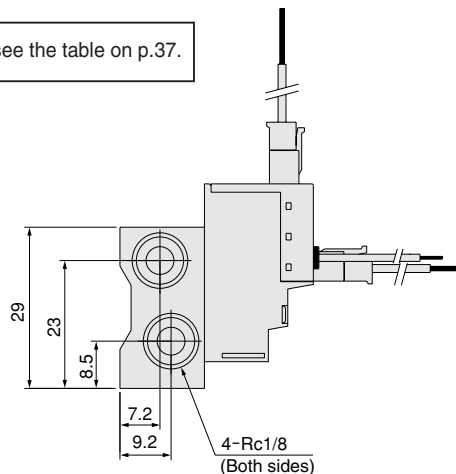
Dimensions of A Type Manifold (for Manifold Piping with Vacuum Solenoid Valves) (mm)

G010MH□A (1(P), 3(R) port: Rc1/8)

G010MHA

SOLENOID VALVES G010 SERIES

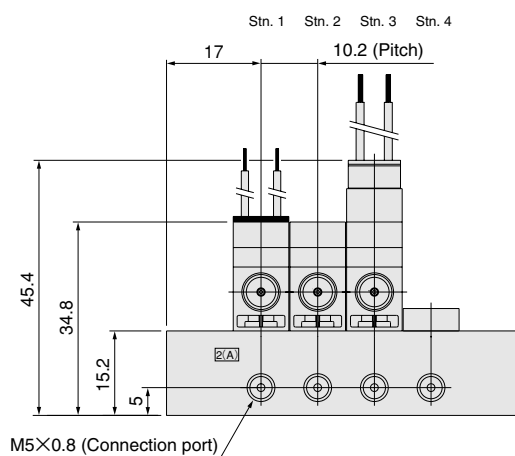
For the piping, see the table on p.37.



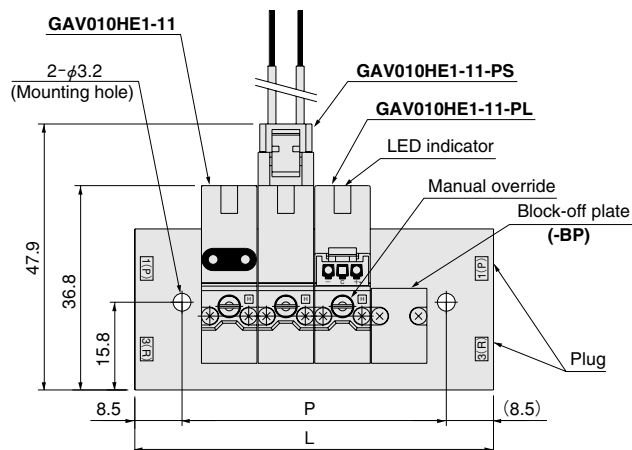
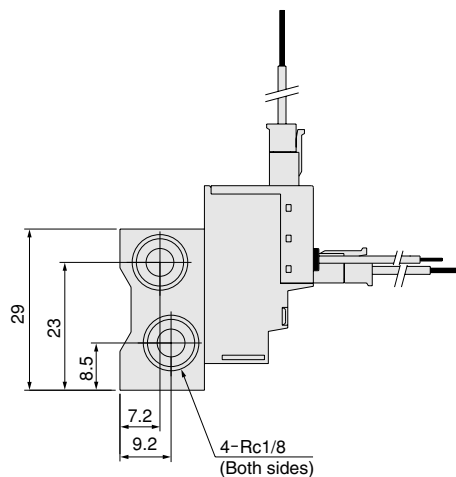
Unit dimensions

mm

Number of units	L	P	Number of units	L	P
2	44.2	27.2	12	146.2	129.2
3	54.4	37.4	13	156.4	139.4
4	64.6	47.6	14	166.6	149.6
5	74.8	57.8	15	176.8	159.8
6	85	68	16	187	170
7	95.2	78.2	17	197.2	180.2
8	105.4	88.4	18	207.4	190.4
9	115.6	98.6	19	217.6	200.6
10	125.8	108.8	20	227.8	210.8
11	136	119	—	—	—



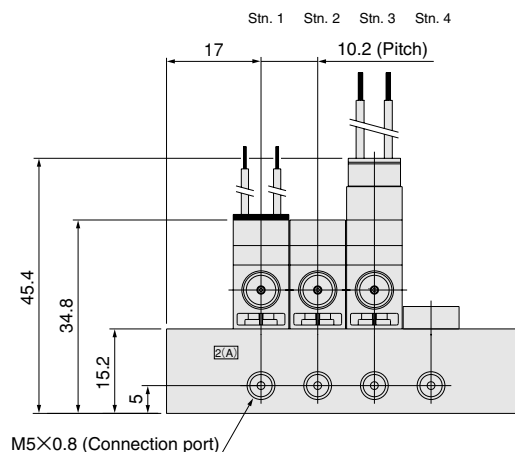
G010MH□A (1(P), 3(R) port: Rc1/8)



Unit dimensions

mm

Number of units	L	P	Number of units	L	P
2	44.2	27.2	12	146.2	129.2
3	54.4	37.4	13	156.4	139.4
4	64.6	47.6	14	166.6	149.6
5	74.8	57.8	15	176.8	159.8
6	85	68	16	187	170
7	95.2	78.2	17	197.2	180.2
8	105.4	88.4	18	207.4	190.4
9	115.6	98.6	19	217.6	200.6
10	125.8	108.8	20	227.8	210.8
11	136	119	—	—	—



For optional wiring, see p.50.