KOGANEI

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ISO9001
ISO14001

TÜV CERT ISO 9001 / ISO 14001

Clean System Product Drawings

CLEAN SYSTEM

Clean System Product Drawings

Ver. 4

C O N T E N T S

KOGANEI CLEAN SYSTEM

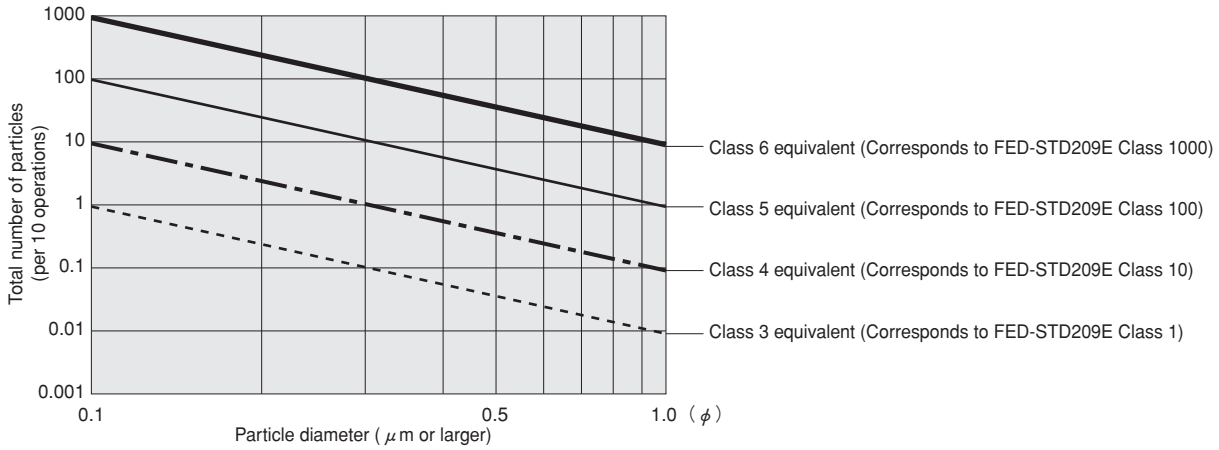
Koganei Clean System products provide complete support for the maintenance of a clean environment inside the cleanroom.

Koganei Clean System products meet the needs of the ultra-clean production environment. In everything from actuators and valves to air preparation and auxiliary equipment, anti-corrosion materials processing and other Koganei-developed design concepts serve to prevent particle contamination within the cleanroom. These perfectly designed mechanisms, which resolve even the slightest leaks to the outside during operations, have already won a high level of reliability.

Koganei Cleanliness

There is currently no standard in JIS or elsewhere for methods of evaluating cleanliness for pneumatic equipment in the cleanroom specifications. Therefore, to measure the effects of cleanroom contamination by pneumatic equipment, Koganei has decided to use "number of particles generated per 10 operations," rather than particle density. Koganei has also developed classifications for application classes in cleanroom, based on JIS and other upper limit density tables, and on the company's own experience.

Particle generation classification of Koganei pneumatic equipment



Remarks: 1. In the above table, product performance in terms of the number of particles generated per 10 operations is expressed as the upper limit of particles corresponding to the equivalent JIS or ISO class.
2. In the above table, values in the JIS, ISO, and FED-STD upper limit density tables are calculated as upper density per liter.
3. The classes shown are clean levels as classified in JIS and ISO.

From the above definitions, the Koganei clean level classes can be viewed as the level of average contamination per liter of surrounding air over a period of 10 operations in cleanroom. Air ventilation in cleanrooms is usually faster than 1 cycle per minute, and clean volumetric capacity is usually larger than 1 liter, which should provide a sufficient safety margin in practice.

Caution: The above conclusions are based on an ideal situation in which air ventilation is being implemented. For specific cases where air ventilation is not ensured, caution is needed since the clean classes cannot be maintained.

The clean system diagrams shown here are for Class 5 equivalent products. For Class 4 or Class 3 equivalent products, consult us.

Evaluations of Cleanliness

Koganei has therefore specified its in-house measurement methods, to conduct evaluations on the cleanroom rating.

The number of particles of the Air Cylinder Cleanroom Specification is measured as shown in the method below.

1. Measurement conditions

1-1 Test circuit: Figure 1 (no suction), Figure 2 (with suction)

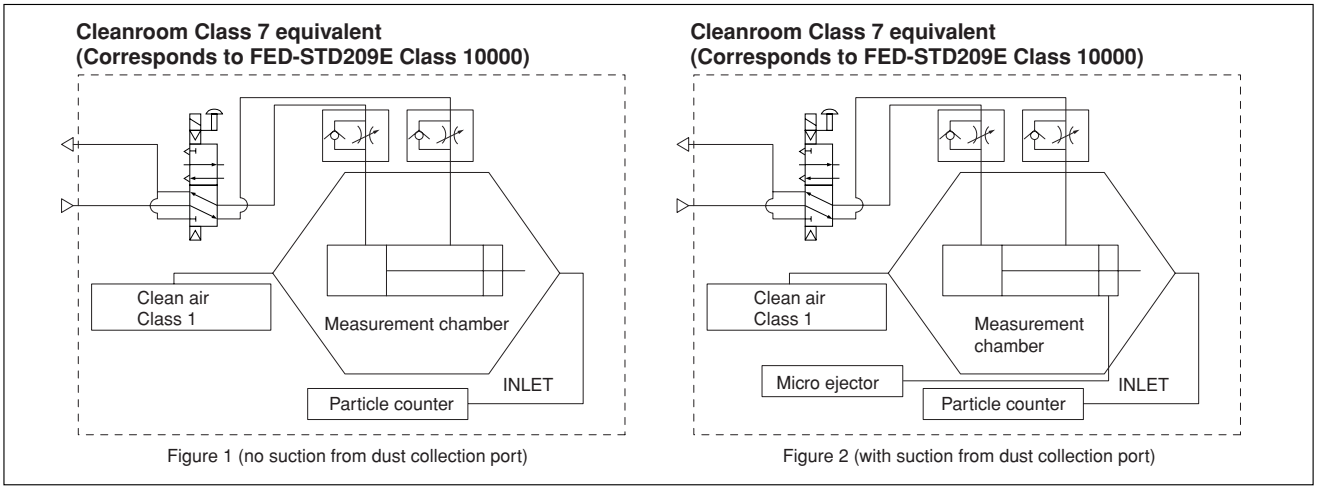


Figure 1 (no suction from dust collection port)

Figure 2 (with suction from dust collection port)

1-2 Operating conditions of tested cylinder
Operating frequency: 1Hz
Average speed: 500mm/s [20in./sec.]
Applied pressure: 0.5MPa [73psi.]
Suction condition: Microejector ME05, Primary side: 0.5MPa [73psi.] applied, Tube: ϕ6 [0.236in.]
Mounting direction: Vertical
Chamber volume: 8.3 ℓ [0.293ft^3]

2. Particle counter

Manufacturer/model: RION/KM20
Suction flow rate: 28.3 ℓ /min [1ft^3/min.]
Particle diameter: 0.1 μm, 0.2 μm, 0.3 μm, 0.5 μm, 0.7 μm, 1.0 μm

3. Measurement method

3-1 Confirmation of number of particles in the measurement system
Under the conditions in the above 1 and 2, using a particle counter to measure the sample for 9 minutes without operating the measurement sample, and confirmed the measured number of particle is 1 piece or less.

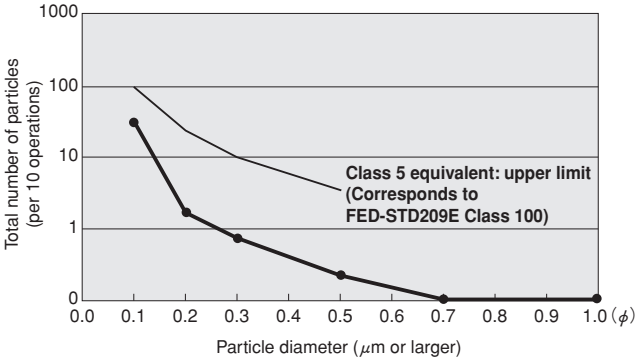
3-2 Measurement under operation
Under the conditions in the above1 and 2, operating the measurement sample for 36 minutes, and measured the total values in the latter half of 18 minutes test.

3-3 Reconfirmation
Performed the measurement in 3-1 again, to reconfirm the number of particles in the measurement system.

4. Measurement results

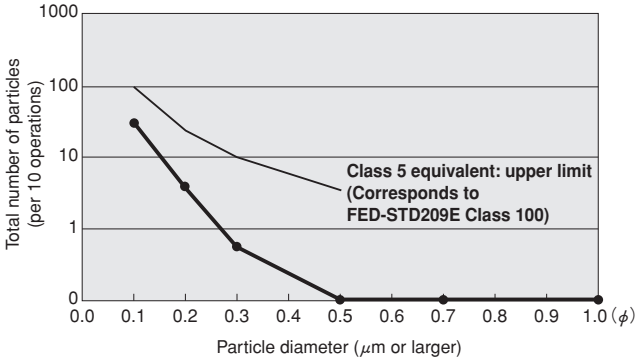
● **Cleanroom specification**
Jig Cylinder (no suction from dust collection port)

Particle generation over 1 million operations (CS-CDA16×30)



● **Cleanroom specification**
Slim Cylinder (with suction from dust collection port)

Particle generation over 1 million operations (CS-DA20×100)



Safety Precautions

Always read these precautions carefully before use.

For “safety precautions” listed in the Clean System Product Drawings, see the materials below.

- For actuators, see “Safety Precautions” on p. 45 of the Actuators General Catalog .
- For valves, see “Safety Precautions” on p. 31 of the Valves General Catalog.
- For air treatment and auxiliary equipment, see “Safety Precautions” on p.31 of the General Catalog of Air Treatment, Auxiliary, Vacuum.

KOGANEI CLEAN SYSTEM

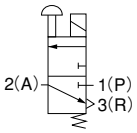
Clean System Product Drawings

Valves

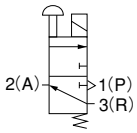
CONTENTS

Symbols

3-port
Normally closed (NC)



3-port
Normally open (NO)



Specifications

Basic Models and Functions

Item \ Basic model	For direct piping, F type manifold Note1			For A type manifold Note2		
	CS-G010E1(-11) **CS-GV010E1(-11)** (standard)	**CS-G010LE1(-11)** **CS-GV010LE1(-11)** (low current)	**CS-G010HE1(-11)** **CS-GV010HE1(-11)** (large flow)	**CS-GA010E1(-11)** **CS-GAV010E1(-11)** (standard)	**CS-GA010LE1(-11)** **CS-GAV010LE1(-11)** (low current)	**CS-GA010HE1(-11)** **CS-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 codes, see p.127～128.
Notes: 1. When using the **CS-G010□E1**, **CS-GV010□E1** as a single unit, select it with a mounting base.
2. When using the **CS-GA010□E1**, **CS-GAV010□E1** as a single unit, select it with a sub-base.

Specifications (Positive Pressure)

Item \ Basic model		Direct piping, F type manifold			A type manifold		
		CS-G010E1 (standard)	**CS-G010LE1** (low current)	**CS-G010HE1** (large flow)	**CS-GA010E1** (standard)	**CS-GA010LE1** (low current)	**CS-GA010HE1** (large flow)
Media		Air					
Operation type		Direct acting type					
Effective area〔Cv〕 mm²	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		M3×0.5			M5×0.8		
Lubrication		Not required					
Operating pressure range	MPa [psi.]	0～0.7 [0～102]					
Proof pressure	MPa [psi.]	1.05 [152]					
Response time Note1 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)	℃ [°F] Note2	5～50 [41～122]					
Shock resistance	m/s² {G}	1373.0 {140} (Axial direction 196.2 {20})					
Rated voltage Note3		(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					

Item \ Basic model		Direct piping, F type manifold			A type manifold		
		CS-G010E1-11 (standard)	**CS-G010LE1-11** (low current)	**CS-G010HE1-11** (large flow)	**CS-GA010E1-11** (standard)	**CS-GA010LE1-11** (low current)	**CS-GA010HE1-11** (large flow)
Media		Air					
Operation type		Direct acting type					
Effective area〔Cv〕 mm²	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		M3×0.5			M5×0.8		
Lubrication		Not required					
Operating pressure range	MPa [psi.]	0～0.7 [0～102]		0～0.5 [0～73]	0～0.7 [0～102]		0～0.5 [0～73]
Proof pressure	MPa [psi.]	1.05 [152]					
Response time Note 1 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)	℃ [°F] Note2	5～50 [41～122]					
Shock resistance	m/s² {G}	1373.0 {140} (Axial direction 196.2 {20})					
Rated voltage Note 3		(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. Values when air pressure is 0.5MPa [73psi.]. Due to switching phase timing, add a maximum of 5ms to the AC response time.
2. Take 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.
3. Values in parentheses ( ) are for made to order items. See the corresponding table of solenoid options/voltage on p.132.

Specifications (Vacuum)

Item \ Basic model		Direct piping, F type manifold			A type manifold		
		CS-GV010E1 (standard)	**CS-GV010LE1** (low current)	**CS-GV010HE1** (large flow)	**CS-GAV010E1** (standard)	**CS-GAV010LE1** (low current)	**CS-GAV010HE1** (large flow)
Media		Air					
Operation type		Direct acting type					
Effective area〔Cv〕 mm²	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		M3×0.5			M5×0.8		
Lubrication		Not required					
Operating pressure range MPa [psi.]	1(P) port	−100kPa～0 [−29.53in.Hg～0]					
	3(R) port	0～0.5 [0～73]		0～0.4 [0～58]	0～0.5 [0～73]		0～0.4 [0～58]
Proof pressure	MPa [psi.]	1.05 [152]					
Response time Note 1 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)	℃ [°F] Note2	5～50 [41～122]					
Shock resistance	m/s² {G}	1373.0 {140} (Axial direction 196.2 {20})					
Rated voltage Note 3		(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					

Item \ Basic model		Direct piping, F type manifold			A type manifold		
		CS-GV010E1-11 (standard)	**CS-GV010LE1-11** (low current)	**CS-GV010HE1-11** (large flow)	**CS-GAV010E1-11** (standard)	**CS-GAV010LE1-11** (low current)	**CS-GAV010HE1-11** (large flow)
Media		Air					
Operation type		Direct acting type					
Effective area〔Cv〕 mm²	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		M3×0.5			M5×0.8		
Lubrication		Not required					
Operating pressure range MPa [psi.]	1(P) port	0～0.5 [0～73]		0～0.4 [0～58]	0～0.5 [0～73]		0～0.4 [0～58]
	3(R) port	−100kPa～0 [−29.53in.Hg～0]					
Proof pressure	MPa [psi.]	1.05 [152]					
Response time Note 1 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)	℃ [°F] Note2	5～50 [41～122]					
Shock resistance	m/s² {G}	1373.0 {140} (Axial direction 196.2 {20})					
Rated voltage Note 3		(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. Values when air pressure is 0.5MPa [73psi.]. Due to the switching phase timing, add a maximum of 5ms to the AC response time.
2. Take 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.
3. Values in parentheses ( ) are for made to order items. See the corresponding table of solenoid options/voltage on p.132.

Solenoid Specifications

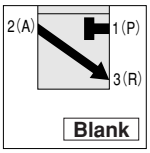
Item \ Rated voltage			DC5V	DC6V	DC12V	DC24V	AC100V Note	AC200V Note
Operating voltage range		V	4.5～5.5 (5±10%)	5.4～6.6 (6±10%)	10.8～13.2 (12±10%)	21.6～26.4 (24±10%)	90～110 (100±10%)	180～220 (200±10%)
CS-G(A)(V)010E1	Current (when rated voltage is applied)	mA(r.m.s)	200	168	84	42	11	8
	Power consumption		1.0W				1.1VA	1.6VA
	Allowable leakage current	mA	2.0				1.0	
CS-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				—	
CS-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.

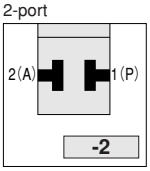
Order Codes

■ **2-, 3-port valve Number of ports**

3-port



2-port



■ **2-, 3-port valve Valve function**

Blank Normally closed (NC)

-11 Normally open (NO)

■ **Mounting base**

Without mounting base

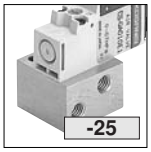
With mounting base

● Attached to a valve body at shipping.

■ **Sub-base**

Without sub-base

With sub-base



● Attached to a valve body at shipping.

■ **Wiring type**

● Lead wire length: 300mm [11.8in.] is standard.

Grommet type with LED indicator

Straight connector with LED indicator

L connector with LED indicator

			Basic model					Voltage
Direct piping	Positive pressure	2-, 3-port standard type	CS-G010E1	-2	-11 Note 2	-21 Note 1	-PS -PL	DC12V,DC24V,AC100V
		2-, 3-port low current type	CS-G010LE1					DC12V,DC24V
		2-, 3-port large flow type	CS-G010HE1					DC24V
	Vacuum	2-, 3-port standard type	CS-GV010E1					DC12V,DC24V,AC100V
		2-, 3-port low current type	CS-GV010LE1					DC12V,DC24V
		2-, 3-port large flow type	CS-GV010HE1					DC24V
Sub-base piping	Positive pressure	2-, 3-port standard type	CS-GA010E1	-2	-11 Note 2	-25 Note 1	-PS -PL	DC12V,DC24V,AC100V
		2-, 3-port low current type	CS-GA010LE1					DC12V,DC24V
		2-, 3-port large flow type	CS-GA010HE1					DC24V
	Vacuum	2-, 3-port standard type	CS-GAV010E1					DC12V,DC24V,AC100V
		2-, 3-port low current type	CS-GAV010LE1					DC12V,DC24V
		2-, 3-port large flow type	CS-GAV010HE1					DC24V

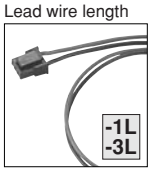
Notes: 1. When using the solenoid valve as a single unit, always select it either with mounting base or with sub-base.
2. Normally closed (NC) and normally open (NO) valves cannot be mounted together on the same manifold.

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

Straight connector with LED indicator Negative common

L connector with LED indicator Negative common

Lead wire length



● For plug connector
● Length **-1L**: 1000 [39in.] (mm) **-3L**: 3000 [118in.]

Voltage specifications

- ● **CS-G□010E1 : DC5V,DC6V,AC200V**
- ● **CS-G□010LE1 : DC5V,DC6V**
- ● **CS-G□010HE1 : DC12V**

● For AC110V～120V, AC220V～240V specifications, consult us.

Straight connector with LED indicator (Without connector, contact and lead wire) Negative common

Straight connector with LED indicator (Without connector, contact and lead wire) Positive common

L connector with LED indicator (Without connector, contact and lead wire) Negative common

L connector with LED indicator (Without connector, contact and lead wire) Positive common

Straight connector with LED indicator (Connector, contact included. Without lead wire) Negative common

Straight connector with LED indicator (Connector, contact included. Without lead wire) Positive common

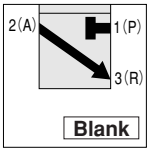
L connector with LED indicator (Connector, contact included. Without lead wire) Negative common

L connector with LED indicator (Connector, contact included. Without lead wire) Positive common

Manifold Order Codes

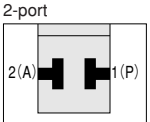
2-, 3-port valve Number of ports

3-port



Blank

2-port



-2

2-, 3-port valve Valve function

Blank
Normally closed (NC)

-11
Normally open (NO)

Wiring type

● Lead wire length: 300mm [11.8in.] is standard.

Grommet type

Blank

Straight connector with LED indicator

-PS

L connector with LED indicator

-PL

Manifold model Number of units			Station	Basic model	-2	-11	-PS -PL	Voltage
P, R port (M5×0.8) type								
CS-G010M	2 ⋮ 20	F	stn.□ ⋮ stn.□	CS-G010E1	-2	-11	-PS -PL	DC12V,DC24V,AC100V
				CS-G010LE1				DC12V,DC24V
				CS-G010HE1				DC24V
				CS-GV010E1				DC12V,DC24V,AC100V
				CS-GV010LE1				DC12V,DC24V
				CS-GV010HE1				DC24V
		A		CS-GA010E1				DC12V,DC24V,AC100V
				CS-GA010LE1				DC12V,DC24V
				CS-GA010HE1				DC24V
				CS-GAV010E1				DC12V,DC24V,AC100V
				CS-GAV010LE1				DC12V,DC24V
				CS-GAV010HE1				DC24V
P, R port (Rc1/8) type								
CS-G010MH	2 ⋮ 20	F	stn.□ ⋮ stn.□	CS-G010E1	-2	-11	-PS -PL	DC12V,DC24V,AC100V
				CS-G010LE1				DC12V,DC24V
				CS-G010HE1				DC24V
				CS-GV010E1				DC12V,DC24V,AC100V
				CS-GV010LE1				DC12V,DC24V
				CS-GV010HE1				DC24V
		A		CS-GA010E1				DC12V,DC24V,AC100V
				CS-GA010LE1				DC12V,DC24V
				CS-GA010HE1				DC24V
				CS-GAV010E1				DC12V,DC24V,AC100V
				CS-GAV010LE1				DC12V,DC24V
				CS-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

CS-G010-21

● For direct piping (With gasket)

Mounting base

CS-G010H-21

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

Sub-base

CS-G010-25

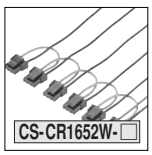
● For sub-base piping (With gasket)

Lead wire for common wiring

CS-G010-COM

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

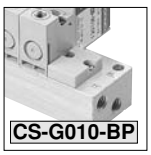
Common pre-wired lead wire assembly



CS-CR1652W-□

● For details, see the Valves General Catalog.

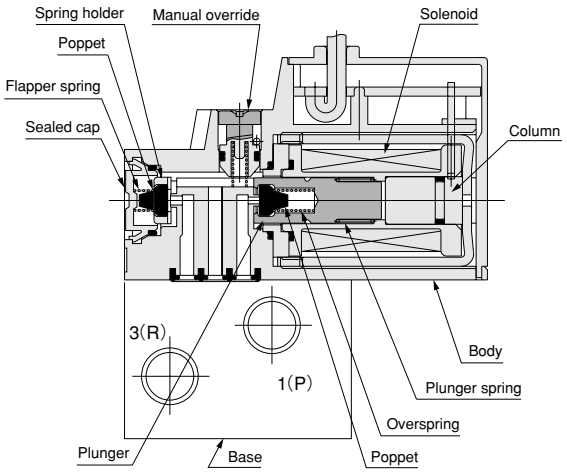
Block-off plate



CS-G010-BP

Operating Principles and Major Parts

3-port



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 and Manifold

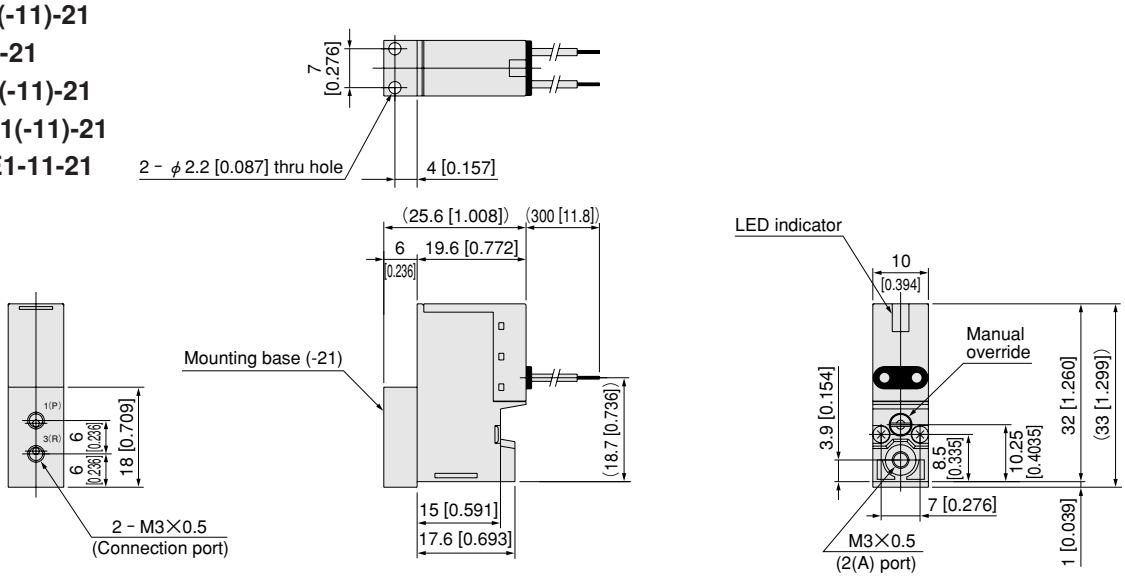
Valve specifications				Valve options				Applicable manifolds			
Piping configuration	Basic model	Power	Flow rate	**-2** (2-port)	**-11**Note 1 (Normally open, NO)	**-21** (Mounting base)	**-25** (Sub-base)	**CS-G010M□F**	**CS-G010M□A**	**CS-G010MH□F**	**CS-G010MH□A**
Direct piping	**CS-G010E1**	**1.0W**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

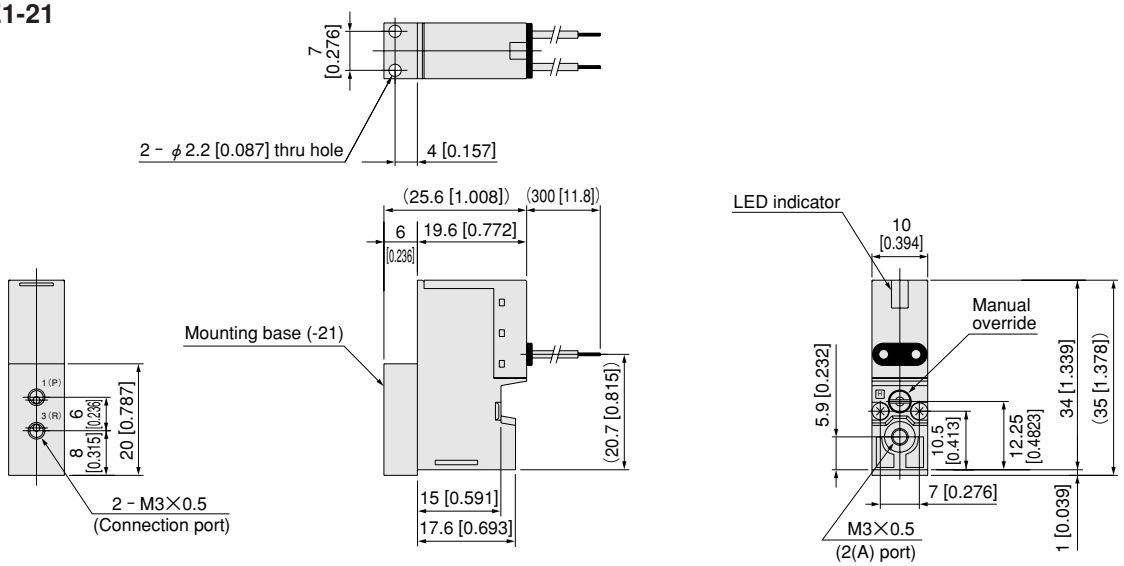
Notes: 1. Care should be taken when ordering, since the initial settings for the normally closed (NC) and normally open (NO) valves cannot be changed later on.
Normally closed (NC) and normally open (NO) valves cannot be mounted together on the same manifold.
2. Values in parentheses ( ) in power column are for holding state.

Dimensions of Direct Piping Solenoid Valve mm [in.]

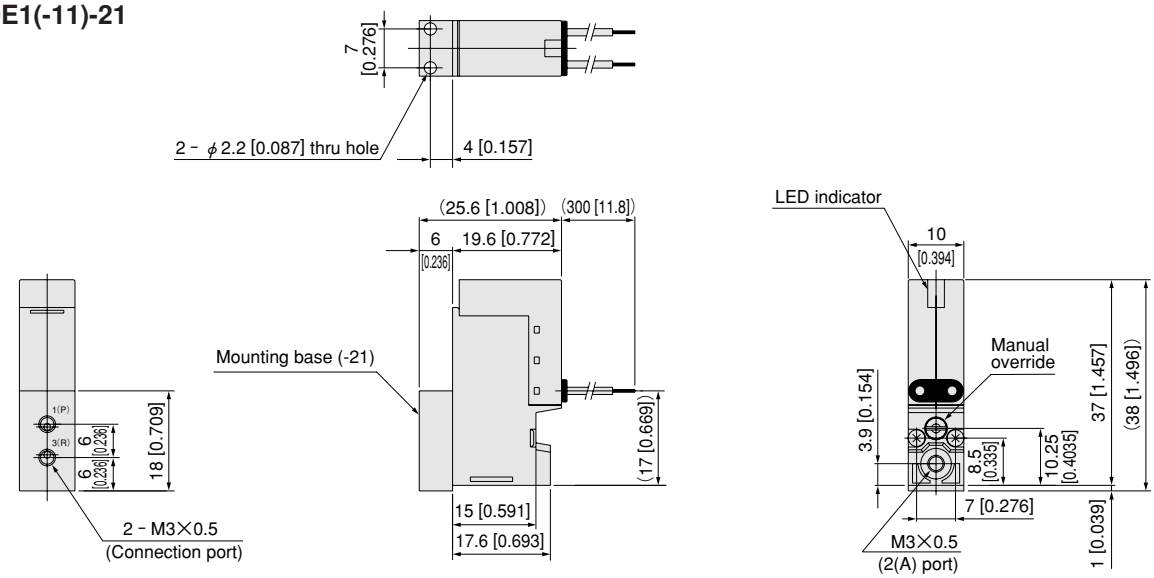
CS-G010E1(-11)-21 (DC5V, DC6V, DC12V, DC24V, AC100V)
CS-G010LE1(-11)-21
CS-G010HE1-21
CS-GV010E1(-11)-21
CS-GV010LE1(-11)-21
CS-GV010HE1-11-21



CS-G010HE1-11-21 (DC24V)
CS-GV010HE1-21

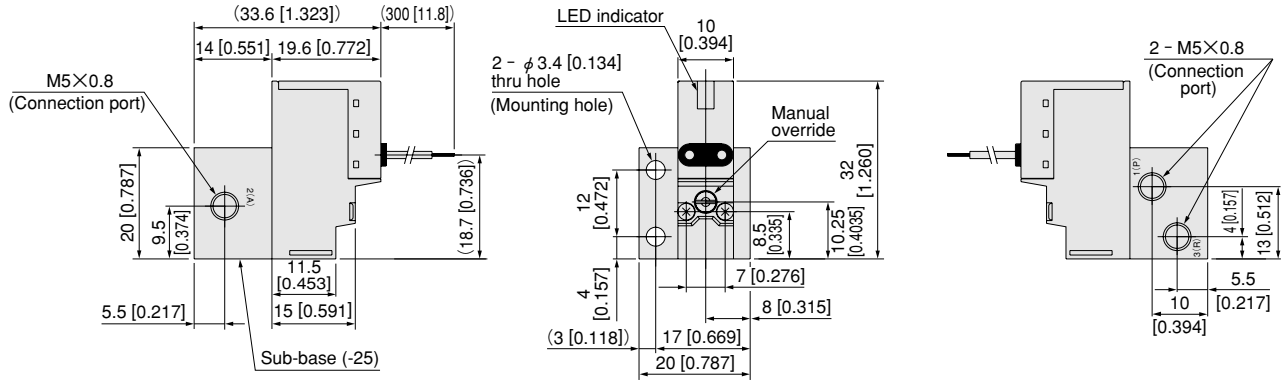


CS-G010E1(-11)-21 (AC200V)
CS-GV010E1(-11)-21

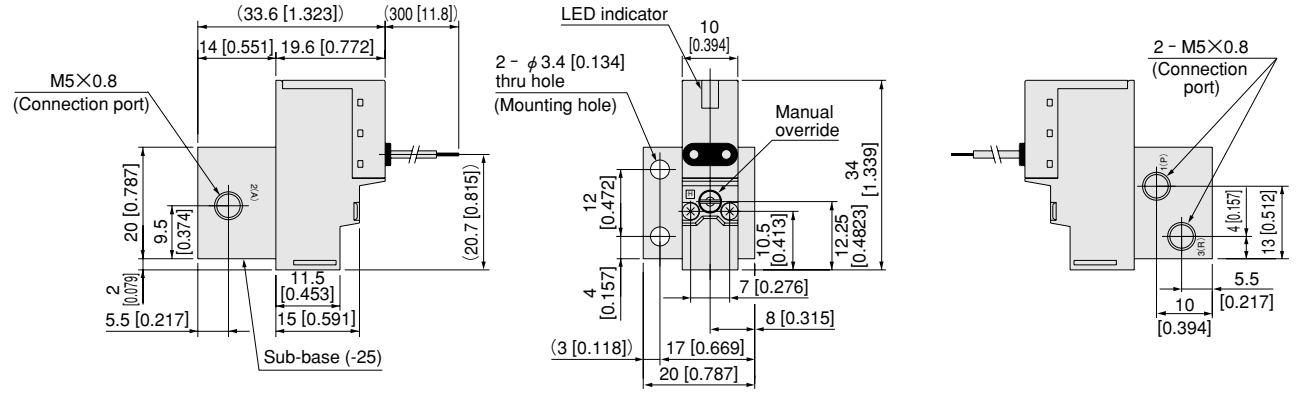


Dimensions of Sub-base Piping Solenoid Valve mm [in.]

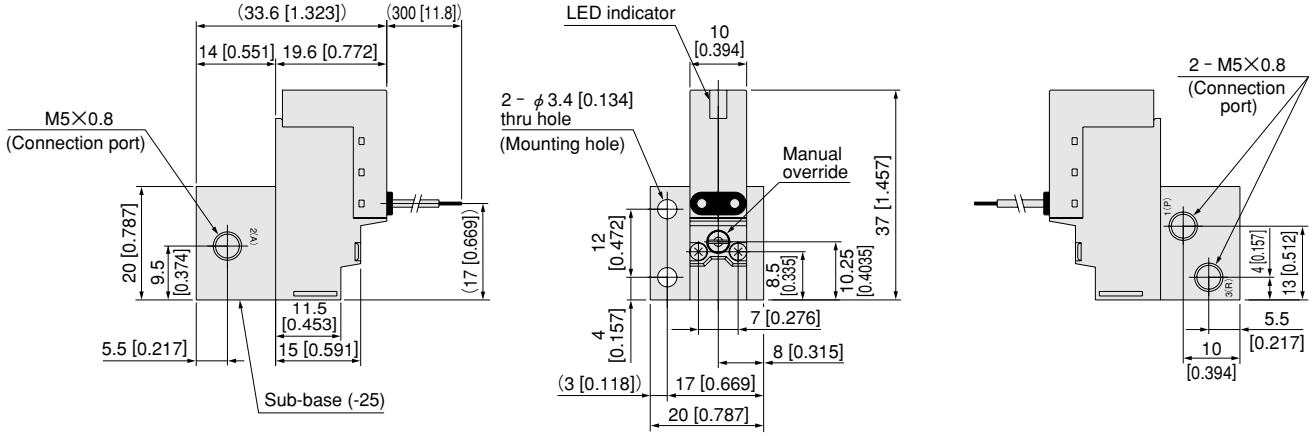
CS-GA010E1(-11)-25 (DC5V, DC6V, DC12V, DC24V, AC100V)
CS-GA010LE1(-11)-25
CS-GA010HE1-25
CS-GAV010E1(-11)-25
CS-GAV010LE1(-11)-25
CS-GAV010HE1-11-25



CS-GA010HE1-11-25 (DC24V)
CS-GAV010HE1-25



CS-GA010E1(-11)-25 (AC200V)
CS-GAV010E1(-11)-25



Dimensions of Connector mm [in.]

Options

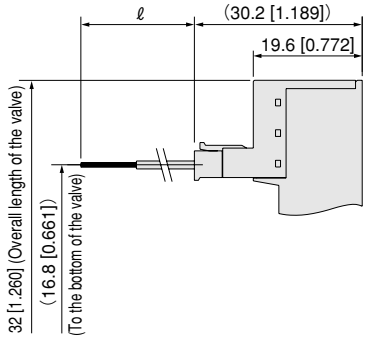
● Solenoid with L connector: **-PL**

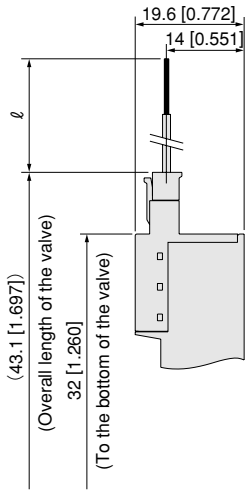
● Solenoid with straight connector: **-PS**

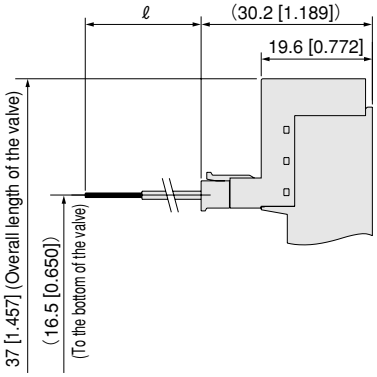
● Solenoid with L connector (AC200V): **-PL**

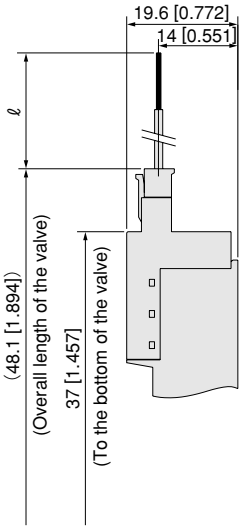
● Solenoid with straight connector (AC200V): **-PS**

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









Model \ Code	ℓ
Blank	300 [11.8]
-1L	1000 [39]
-3L	3000 [118]

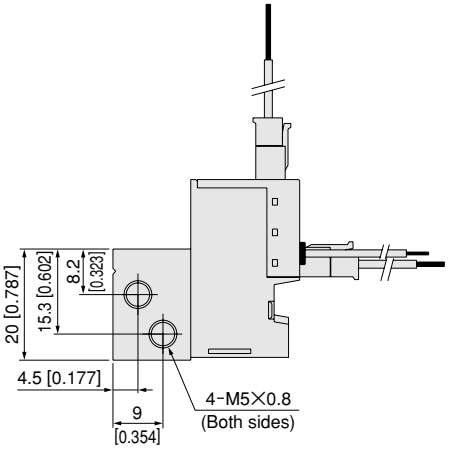
Corresponding Table of Solenoid Options and Voltage

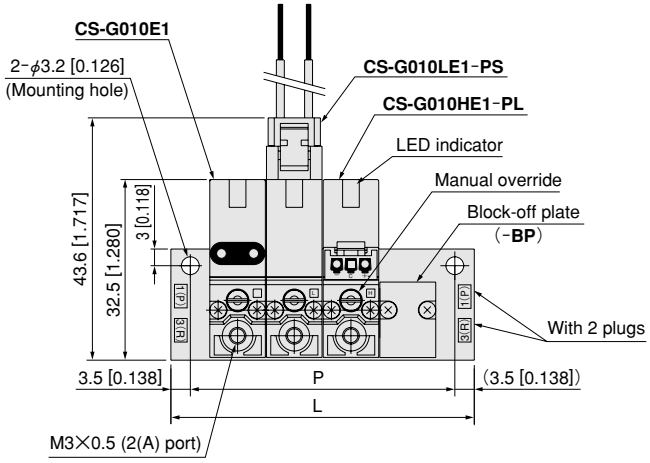
Basic valve models	Voltage specifications	Connector specifications												
		Blank (grommet)	-PS	-PL	-MS	-ML	-PSX	-PLX	-MSX	-MLX	-PSN	-PLN	-MSN	-MLN
CS-G(A)010E1〔-11〕 CS-G(A)V010E1〔-11〕 (standard type)	**DC5V**	△	△	△	△	△	△	△	△	△	△	△	△	△
	DC6V	△	△	△	△	△	△	△	△	△	△	△	△	△
	DC12V	●	●	●	△	△	△	△	△	△	△	△	△	△
	DC24V	●	●	●	△	△	△	△	△	△	△	△	△	△
	AC100V	●	●	●			△	△			△	△		
	AC200V	△	△	△			△	△			△	△		
CS-G(A)010LE1〔-11〕 CS-G(A)V010LE1〔-11〕 (low current type)	**DC5V**	△	△	△	△	△	△	△	△	△	△	△	△	△
	DC6V	△	△	△	△	△	△	△	△	△	△	△	△	△
	DC12V	●	●	●	△	△	△	△	△	△	△	△	△	△
	DC24V	●	●	●	△	△	△	△	△	△	△	△	△	△
CS-G(A)010HE1〔-11〕 CS-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 [in.]

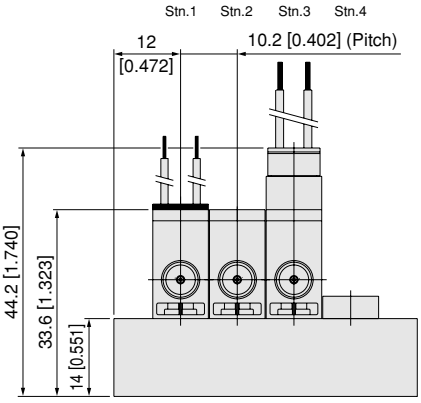
CS-G010M□F (1(P), 3(R) port: M5×0.8)



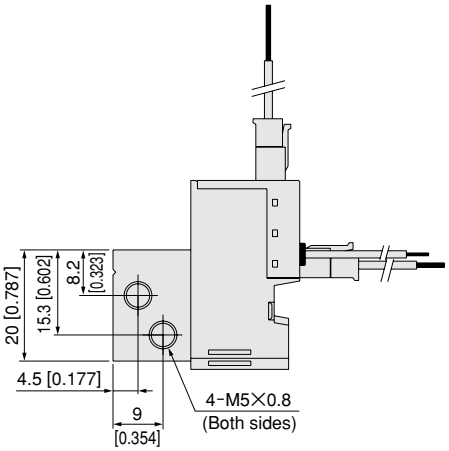


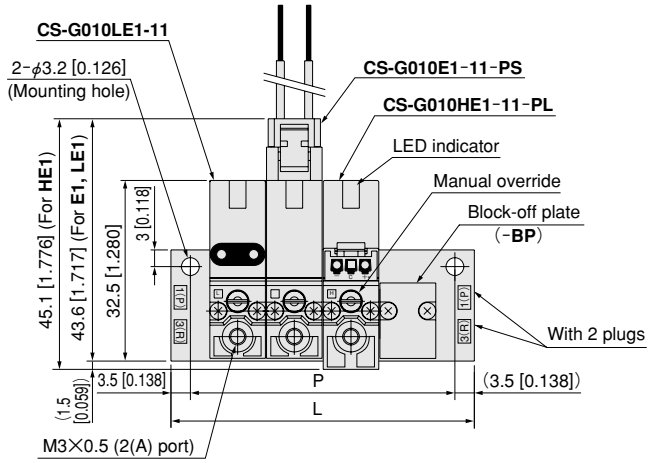
Unit dimensions

Number of units	L	P	Number of units	L	P
2	34.2 [1.346]	27.2 [1.071]	12	136.2 [5.362]	129.2 [5.087]
3	44.4 [1.748]	37.4 [1.472]	13	146.4 [5.764]	139.4 [5.488]
4	54.6 [2.150]	47.6 [1.874]	14	156.6 [6.165]	149.6 [5.890]
5	64.8 [2.551]	57.8 [2.276]	15	166.8 [6.567]	159.8 [6.291]
6	75 [2.953]	68 [2.677]	16	177 [6.969]	170 [6.693]
7	85.2 [3.354]	78.2 [3.079]	17	187.2 [7.370]	180.2 [7.094]
8	95.4 [3.756]	88.4 [3.480]	18	197.4 [7.772]	190.4 [7.496]
9	105.6 [4.157]	98.6 [3.882]	19	207.6 [8.173]	200.6 [7.898]
10	115.8 [4.559]	108.8 [4.283]	20	217.8 [8.575]	210.8 [8.299]
11	126 [4.961]	119 [4.685]	—	—	—



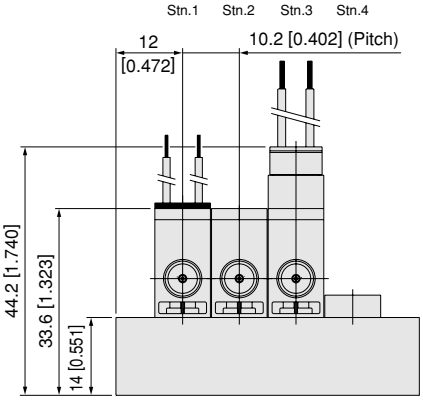
CS-G010M□F (1(P), 3(R) port: M5×0.8)





Unit dimensions

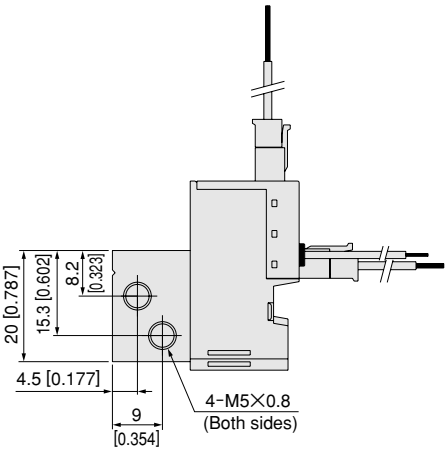
Number of units	L	P	Number of units	L	P
2	34.2 [1.346]	27.2 [1.071]	12	136.2 [5.362]	129.2 [5.087]
3	44.4 [1.748]	37.4 [1.472]	13	146.4 [5.764]	139.4 [5.488]
4	54.6 [2.150]	47.6 [1.874]	14	156.6 [6.165]	149.6 [5.890]
5	64.8 [2.551]	57.8 [2.276]	15	166.8 [6.567]	159.8 [6.291]
6	75 [2.953]	68 [2.677]	16	177 [6.969]	170 [6.693]
7	85.2 [3.354]	78.2 [3.079]	17	187.2 [7.370]	180.2 [7.094]
8	95.4 [3.756]	88.4 [3.480]	18	197.4 [7.772]	190.4 [7.496]
9	105.6 [4.157]	98.6 [3.882]	19	207.6 [8.173]	200.6 [7.898]
10	115.8 [4.559]	108.8 [4.283]	20	217.8 [8.575]	210.8 [8.299]
11	126 [4.961]	119 [4.685]	—	—	—

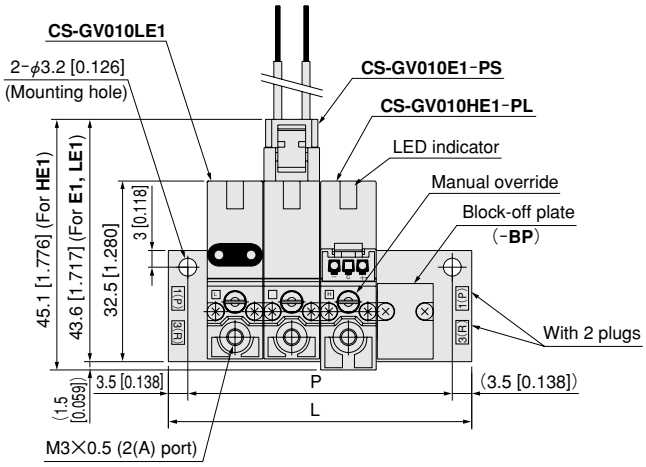


For optional wiring, see p.132.

Dimensions of F Type Manifold (for Direct Piping with Vacuum Solenoid Valves) mm [in.]

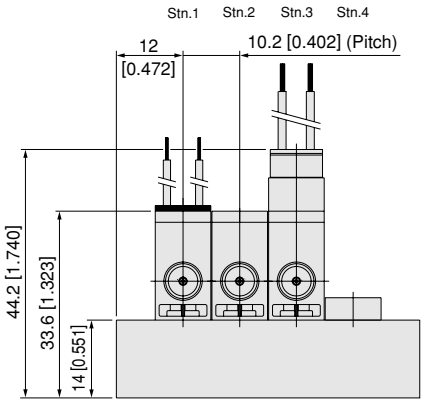
CS-G010M□F (1(P), 3(R) port: M5×0.8)



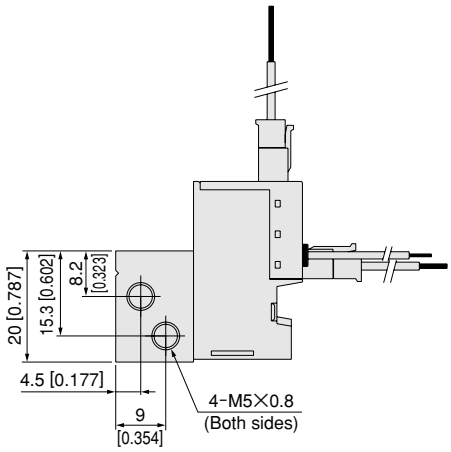


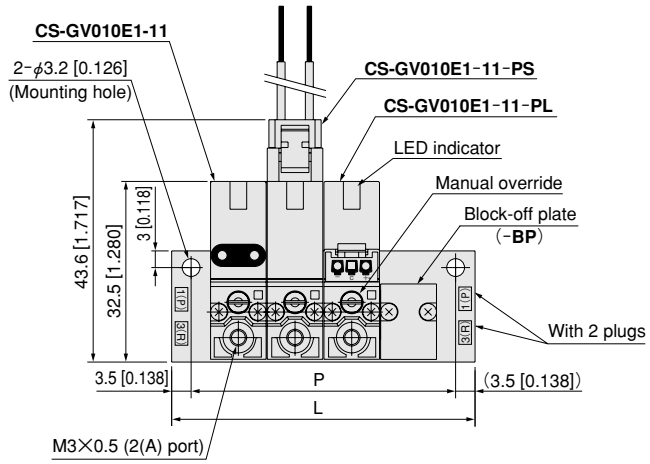
Unit dimensions

Number of units	L	P	Number of units	L	P
2	34.2 [1.346]	27.2 [1.071]	12	136.2 [5.362]	129.2 [5.087]
3	44.4 [1.748]	37.4 [1.472]	13	146.4 [5.764]	139.4 [5.488]
4	54.6 [2.150]	47.6 [1.874]	14	156.6 [6.165]	149.6 [5.890]
5	64.8 [2.551]	57.8 [2.276]	15	166.8 [6.567]	159.8 [6.291]
6	75 [2.953]	68 [2.677]	16	177 [6.969]	170 [6.693]
7	85.2 [3.354]	78.2 [3.079]	17	187.2 [7.370]	180.2 [7.094]
8	95.4 [3.756]	88.4 [3.480]	18	197.4 [7.772]	190.4 [7.496]
9	105.6 [4.157]	98.6 [3.882]	19	207.6 [8.173]	200.6 [7.898]
10	115.8 [4.559]	108.8 [4.283]	20	217.8 [8.575]	210.8 [8.299]
11	126 [4.961]	119 [4.685]	—	—	—



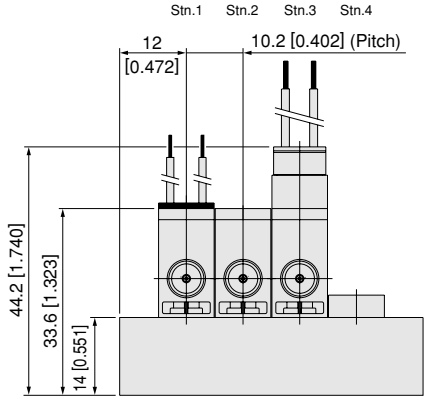
CS-G010M□F (1(P), 3(R) port: M5×0.8)





Unit dimensions

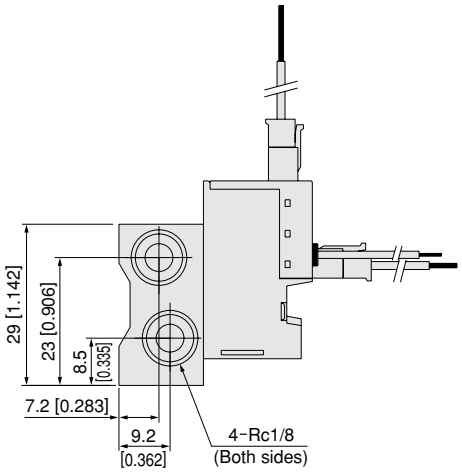
Number of units	L	P	Number of units	L	P
2	34.2 [1.346]	27.2 [1.071]	12	136.2 [5.362]	129.2 [5.087]
3	44.4 [1.748]	37.4 [1.472]	13	146.4 [5.764]	139.4 [5.488]
4	54.6 [2.150]	47.6 [1.874]	14	156.6 [6.165]	149.6 [5.890]
5	64.8 [2.551]	57.8 [2.276]	15	166.8 [6.567]	159.8 [6.291]
6	75 [2.953]	68 [2.677]	16	177 [6.969]	170 [6.693]
7	85.2 [3.354]	78.2 [3.079]	17	187.2 [7.370]	180.2 [7.094]
8	95.4 [3.756]	88.4 [3.480]	18	197.4 [7.772]	190.4 [7.496]
9	105.6 [4.157]	98.6 [3.882]	19	207.6 [8.173]	200.6 [7.898]
10	115.8 [4.559]	108.8 [4.283]	20	217.8 [8.575]	210.8 [8.299]
11	126 [4.961]	119 [4.685]	—	—	—

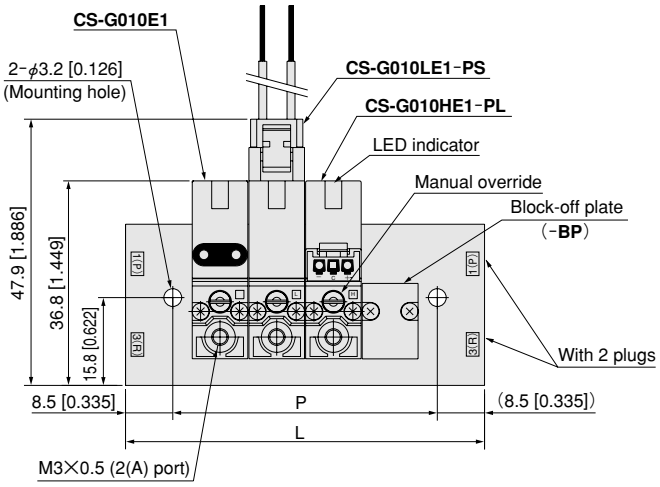


For optional wiring, see p.132.

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

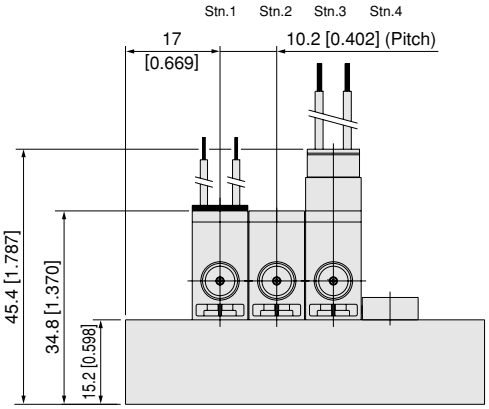
CS-G010MH□F (1(P), 3(R) port: Rc1/8)



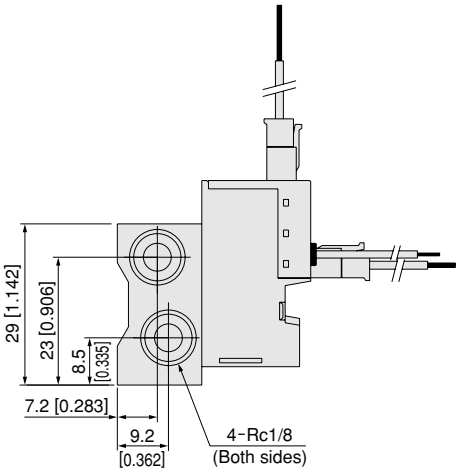


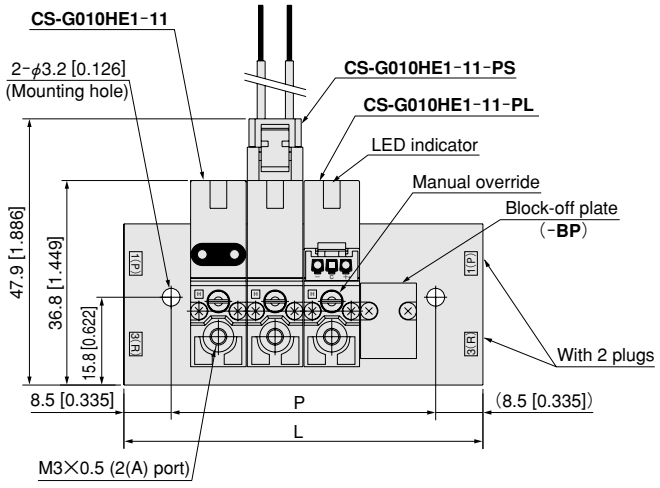
Unit dimensions

Number of units	L	P	Number of units	L	P
2	44.2 [1.740]	27.2 [1.071]	12	146.2 [5.756]	129.2 [5.087]
3	54.4 [2.142]	37.4 [1.472]	13	156.4 [6.157]	139.4 [5.488]
4	64.6 [2.543]	47.6 [1.874]	14	166.6 [6.559]	149.6 [5.890]
5	74.8 [2.945]	57.8 [2.276]	15	176.8 [6.961]	159.8 [6.291]
6	85 [3.346]	68 [2.677]	16	187 [7.362]	170 [6.693]
7	95.2 [3.748]	78.2 [3.079]	17	197.2 [7.764]	180.2 [7.094]
8	105.4 [4.150]	88.4 [3.480]	18	207.4 [8.165]	190.4 [7.496]
9	115.6 [4.551]	98.6 [3.882]	19	217.6 [8.567]	200.6 [7.898]
10	125.8 [4.953]	108.8 [4.283]	20	227.8 [8.969]	210.8 [8.299]
11	136 [5.354]	119 [4.685]	—	—	—



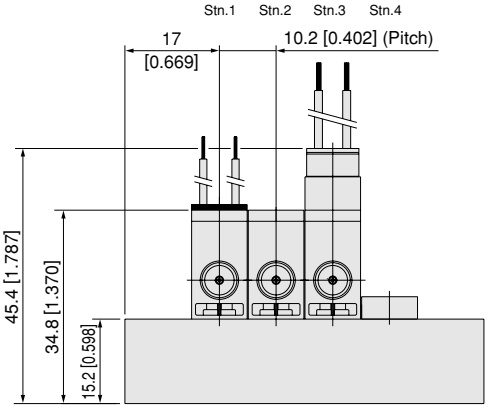
CS-G010MH□F (1(P), 3(R) port: Rc1/8)





Unit dimensions

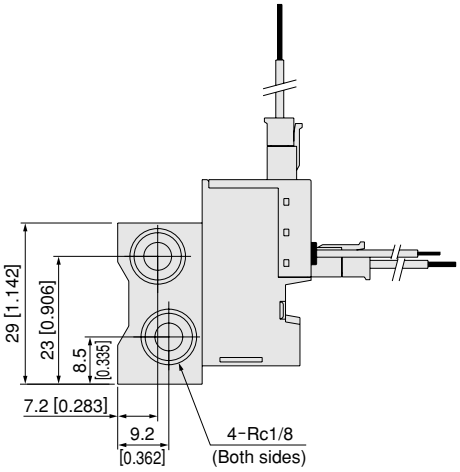
Number of units	L	P	Number of units	L	P
2	44.2 [1.740]	27.2 [1.071]	12	146.2 [5.756]	129.2 [5.087]
3	54.4 [2.142]	37.4 [1.472]	13	156.4 [6.157]	139.4 [5.488]
4	64.6 [2.543]	47.6 [1.874]	14	166.6 [6.559]	149.6 [5.890]
5	74.8 [2.945]	57.8 [2.276]	15	176.8 [6.961]	159.8 [6.291]
6	85 [3.346]	68 [2.677]	16	187 [7.362]	170 [6.693]
7	95.2 [3.748]	78.2 [3.079]	17	197.2 [7.764]	180.2 [7.094]
8	105.4 [4.150]	88.4 [3.480]	18	207.4 [8.165]	190.4 [7.496]
9	115.6 [4.551]	98.6 [3.882]	19	217.6 [8.567]	200.6 [7.898]
10	125.8 [4.953]	108.8 [4.283]	20	227.8 [8.969]	210.8 [8.299]
11	136 [5.354]	119 [4.685]	—	—	—

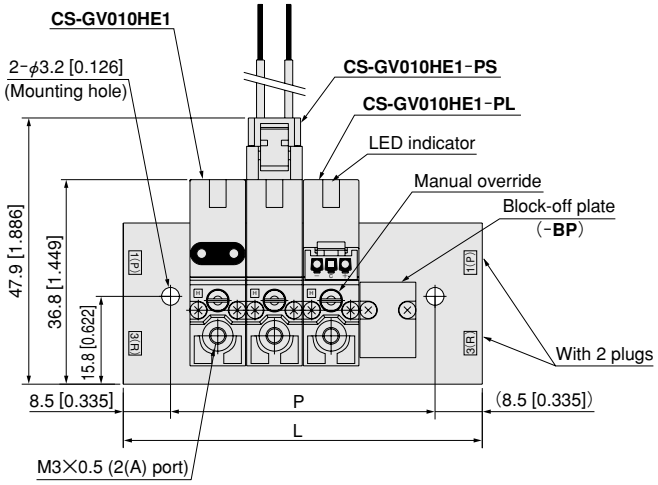


For optional wiring, see p.132.

Dimensions of F type Manifold (for Direct Piping with Vacuum Solenoid Valves) mm [in.]

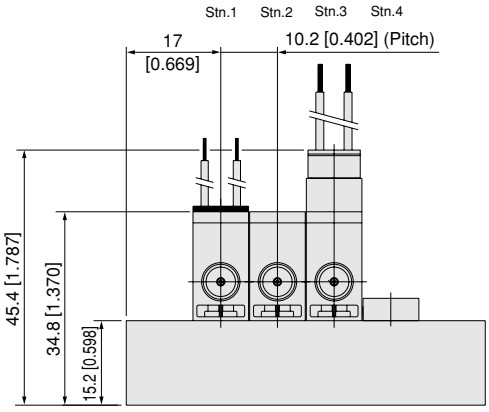
CS-G010MH□F (1(P), 3(R) port: Rc1/8)



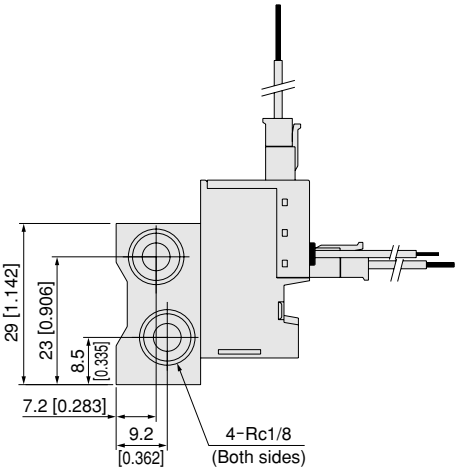


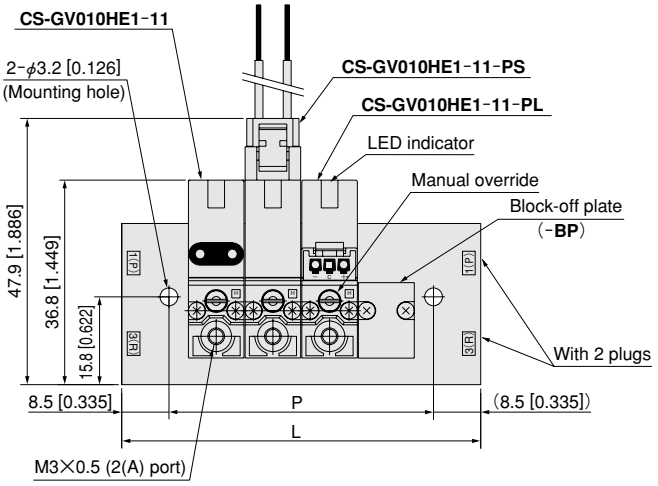
Unit dimensions

Number of units	L	P	Number of units	L	P
2	44.2 [1.740]	27.2 [1.071]	12	146.2 [5.756]	129.2 [5.087]
3	54.4 [2.142]	37.4 [1.472]	13	156.4 [6.157]	139.4 [5.488]
4	64.6 [2.543]	47.6 [1.874]	14	166.6 [6.559]	149.6 [5.890]
5	74.8 [2.945]	57.8 [2.276]	15	176.8 [6.961]	159.8 [6.291]
6	85 [3.346]	68 [2.677]	16	187 [7.362]	170 [6.693]
7	95.2 [3.748]	78.2 [3.079]	17	197.2 [7.764]	180.2 [7.094]
8	105.4 [4.150]	88.4 [3.480]	18	207.4 [8.165]	190.4 [7.496]
9	115.6 [4.551]	98.6 [3.882]	19	217.6 [8.567]	200.6 [7.898]
10	125.8 [4.953]	108.8 [4.283]	20	227.8 [8.969]	210.8 [8.299]
11	136 [5.354]	119 [4.685]	—	—	—



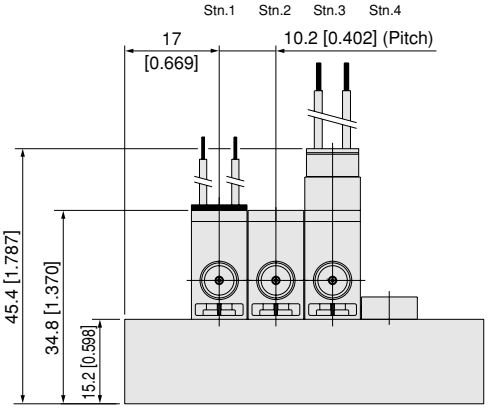
CS-G010MH□F (1(P), 3(R) port: Rc1/8)





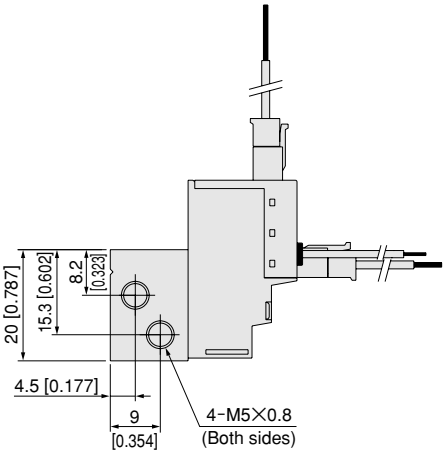
Unit dimensions

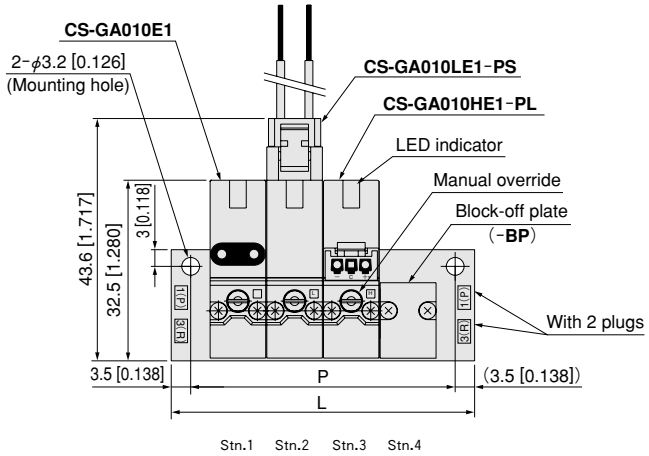
Number of units	L	P	Number of units	L	P
2	44.2 [1.740]	27.2 [1.071]	12	146.2 [5.756]	129.2 [5.087]
3	54.4 [2.142]	37.4 [1.472]	13	156.4 [6.157]	139.4 [5.488]
4	64.6 [2.543]	47.6 [1.874]	14	166.6 [6.559]	149.6 [5.890]
5	74.8 [2.945]	57.8 [2.276]	15	176.8 [6.961]	159.8 [6.291]
6	85 [3.346]	68 [2.677]	16	187 [7.362]	170 [6.693]
7	95.2 [3.748]	78.2 [3.079]	17	197.2 [7.764]	180.2 [7.094]
8	105.4 [4.150]	88.4 [3.480]	18	207.4 [8.165]	190.4 [7.496]
9	115.6 [4.551]	98.6 [3.882]	19	217.6 [8.567]	200.6 [7.898]
10	125.8 [4.953]	108.8 [4.283]	20	227.8 [8.969]	210.8 [8.299]
11	136 [5.354]	119 [4.685]	—	—	—



For optional wiring, see p.132.

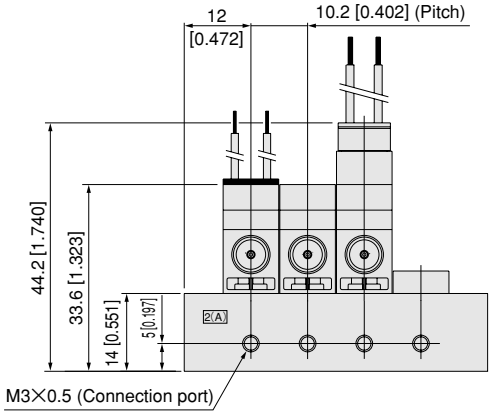
CS-G010M□A (1(P), 3(R) port: M5×0.8)



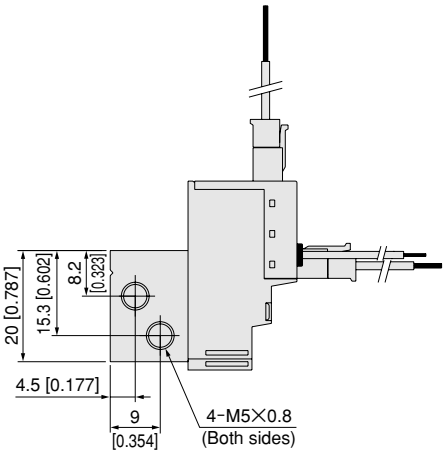


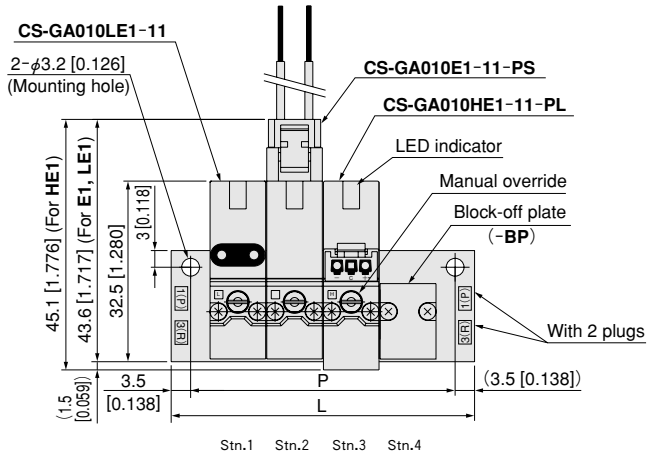
Unit dimensions

Number of units	L	P	Number of units	L	P
2	34.2 [1.346]	27.2 [1.071]	12	136.2 [5.362]	129.2 [5.087]
3	44.4 [1.748]	37.4 [1.472]	13	146.4 [5.764]	139.4 [5.488]
4	54.6 [2.150]	47.6 [1.874]	14	156.6 [6.165]	149.6 [5.890]
5	64.8 [2.551]	57.8 [2.276]	15	166.8 [6.567]	159.8 [6.291]
6	75 [2.953]	68 [2.677]	16	177 [6.969]	170 [6.693]
7	85.2 [3.354]	78.2 [3.079]	17	187.2 [7.370]	180.2 [7.094]
8	95.4 [3.756]	88.4 [3.480]	18	197.4 [7.772]	190.4 [7.496]
9	105.6 [4.157]	98.6 [3.882]	19	207.6 [8.173]	200.6 [7.898]
10	115.8 [4.559]	108.8 [4.283]	20	217.8 [8.575]	210.8 [8.299]
11	126 [4.961]	119 [4.685]	—	—	—



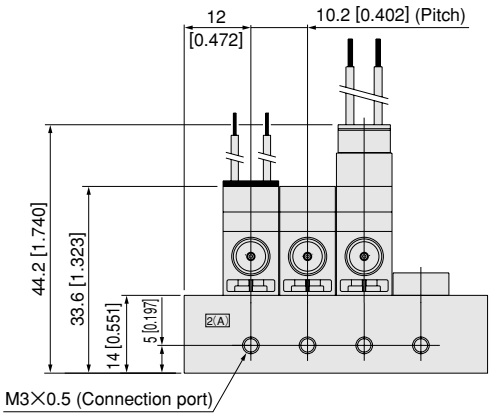
CS-G010M□A (1(P), 3(R) port: M5×0.8)





Unit dimensions

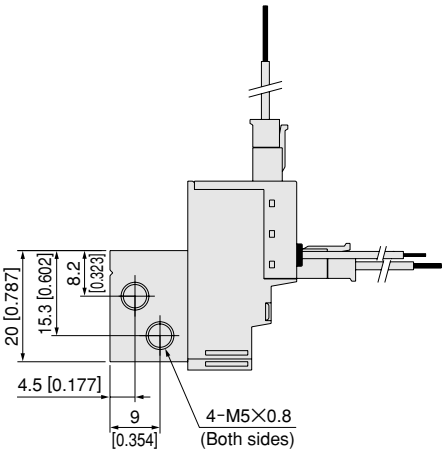
Number of units	L	P	Number of units	L	P
2	34.2 [1.346]	27.2 [1.071]	12	136.2 [5.362]	129.2 [5.087]
3	44.4 [1.748]	37.4 [1.472]	13	146.4 [5.764]	139.4 [5.488]
4	54.6 [2.150]	47.6 [1.874]	14	156.6 [6.165]	149.6 [5.890]
5	64.8 [2.551]	57.8 [2.276]	15	166.8 [6.567]	159.8 [6.291]
6	75 [2.953]	68 [2.677]	16	177 [6.969]	170 [6.693]
7	85.2 [3.354]	78.2 [3.079]	17	187.2 [7.370]	180.2 [7.094]
8	95.4 [3.756]	88.4 [3.480]	18	197.4 [7.772]	190.4 [7.496]
9	105.6 [4.157]	98.6 [3.882]	19	207.6 [8.173]	200.6 [7.898]
10	115.8 [4.559]	108.8 [4.283]	20	217.8 [8.575]	210.8 [8.299]
11	126 [4.961]	119 [4.685]	—	—	—

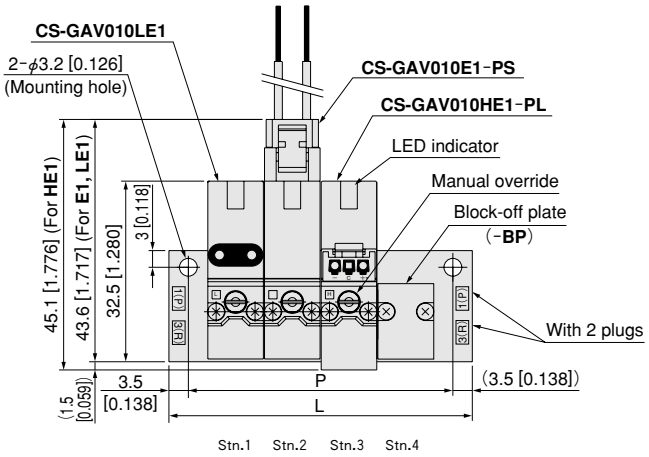


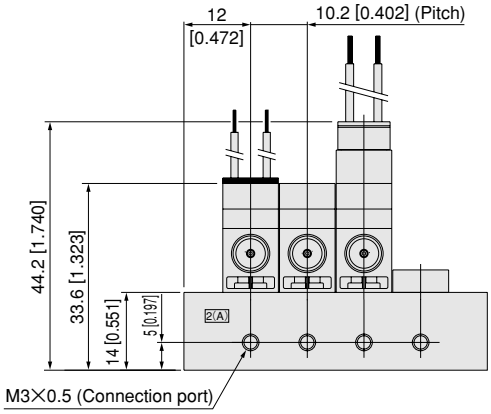
For optional wiring, see p.132.

Dimensions of A Type Manifold (for Manifold Piping with Vacuum Solenoid Valves) mm [in.]

CS-G010M□A (1(P), 3(R) port: M5×0.8)



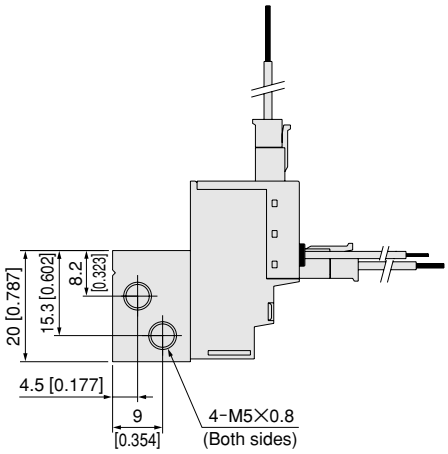


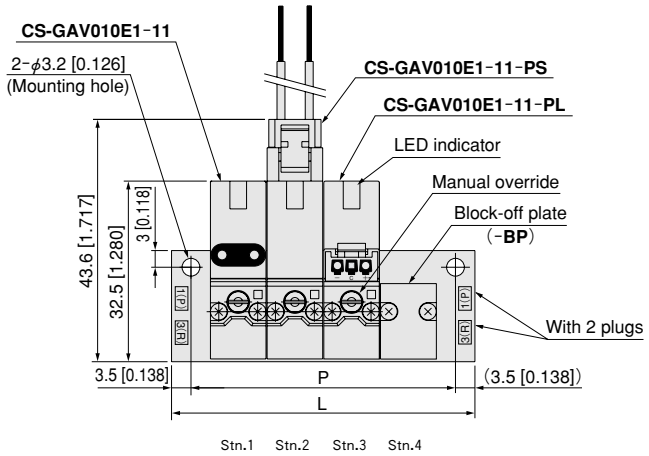


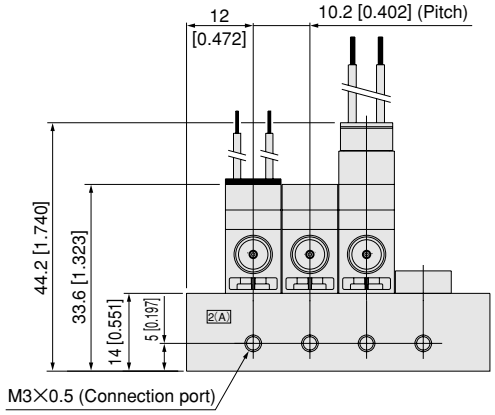
Unit dimensions

Number of units	L	P	Number of units	L	P
2	34.2 [1.346]	27.2 [1.071]	12	136.2 [5.362]	129.2 [5.087]
3	44.4 [1.748]	37.4 [1.472]	13	146.4 [5.764]	139.4 [5.488]
4	54.6 [2.150]	47.6 [1.874]	14	156.6 [6.165]	149.6 [5.890]
5	64.8 [2.551]	57.8 [2.276]	15	166.8 [6.567]	159.8 [6.291]
6	75 [2.953]	68 [2.677]	16	177 [6.969]	170 [6.693]
7	85.2 [3.354]	78.2 [3.079]	17	187.2 [7.370]	180.2 [7.094]
8	95.4 [3.756]	88.4 [3.480]	18	197.4 [7.772]	190.4 [7.496]
9	105.6 [4.157]	98.6 [3.882]	19	207.6 [8.173]	200.6 [7.898]
10	115.8 [4.559]	108.8 [4.283]	20	217.8 [8.575]	210.8 [8.299]
11	126 [4.961]	119 [4.685]	—	—	—

CS-G010M□A (1(P), 3(R) port: M5×0.8)





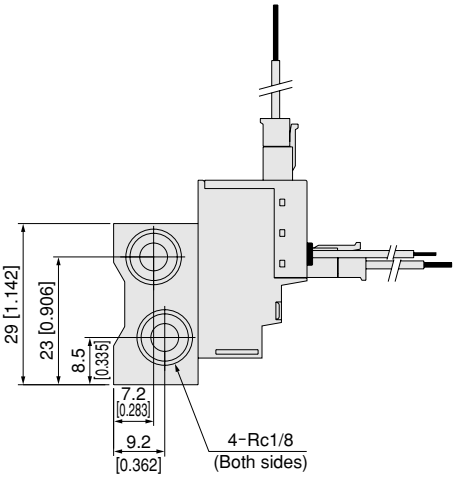


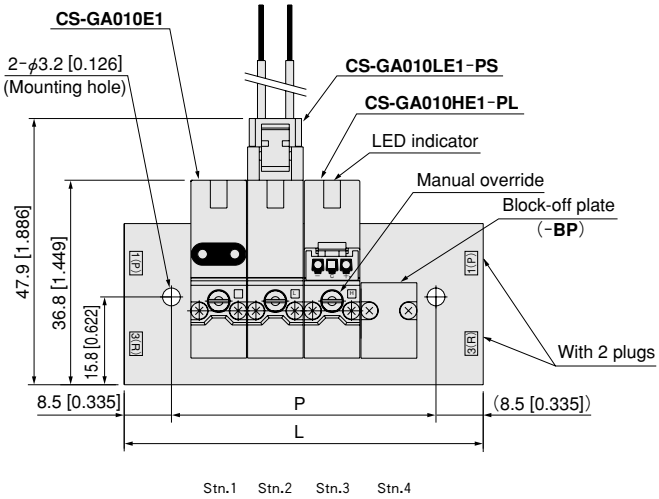
Unit dimensions

Number of units	L	P	Number of units	L	P
2	34.2 [1.346]	27.2 [1.071]	12	136.2 [5.362]	129.2 [5.087]
3	44.4 [1.748]	37.4 [1.472]	13	146.4 [5.764]	139.4 [5.488]
4	54.6 [2.150]	47.6 [1.874]	14	156.6 [6.165]	149.6 [5.890]
5	64.8 [2.551]	57.8 [2.276]	15	166.8 [6.567]	159.8 [6.291]
6	75 [2.953]	68 [2.677]	16	177 [6.969]	170 [6.693]
7	85.2 [3.354]	78.2 [3.079]	17	187.2 [7.370]	180.2 [7.094]
8	95.4 [3.756]	88.4 [3.480]	18	197.4 [7.772]	190.4 [7.496]
9	105.6 [4.157]	98.6 [3.882]	19	207.6 [8.173]	200.6 [7.898]
10	115.8 [4.559]	108.8 [4.283]	20	217.8 [8.575]	210.8 [8.299]
11	126 [4.961]	119 [4.685]	—	—	—

For optional wiring, see p.132.

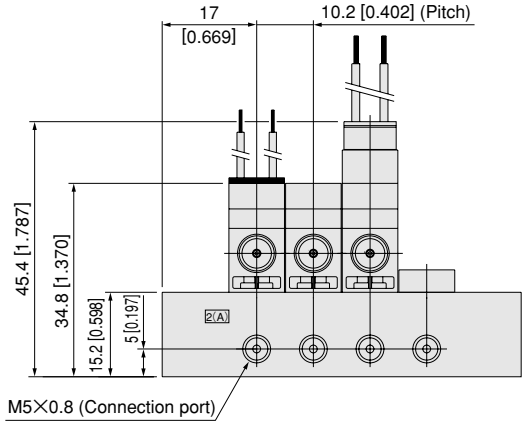
CS-G010MH□A (1(P), 3(R) port: Rc1/8)



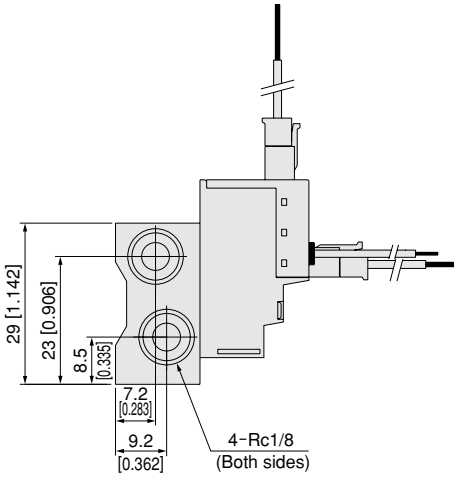


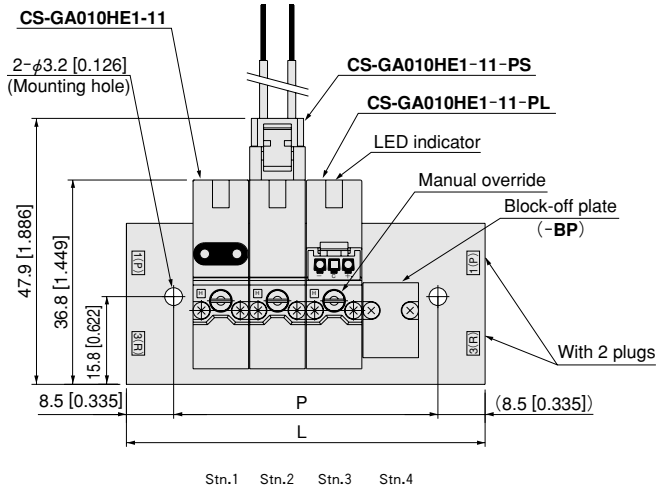
Unit dimensions

Number of units	L	P	Number of units	L	P
2	44.2 [1.740]	27.2 [1.071]	12	146.2 [5.756]	129.2 [5.087]
3	54.4 [2.142]	37.4 [1.472]	13	156.4 [6.157]	139.4 [5.488]
4	64.6 [2.543]	47.6 [1.874]	14	166.6 [6.559]	149.6 [5.890]
5	74.8 [2.945]	57.8 [2.276]	15	176.8 [6.961]	159.8 [6.291]
6	85 [3.346]	68 [2.677]	16	187 [7.362]	170 [6.693]
7	95.2 [3.748]	78.2 [3.079]	17	197.2 [7.764]	180.2 [7.094]
8	105.4 [4.150]	88.4 [3.480]	18	207.4 [8.165]	190.4 [7.496]
9	115.6 [4.551]	98.6 [3.882]	19	217.6 [8.567]	200.6 [7.898]
10	125.8 [4.953]	108.8 [4.283]	20	227.8 [8.969]	210.8 [8.299]
11	136 [5.354]	119 [4.685]	—	—	—



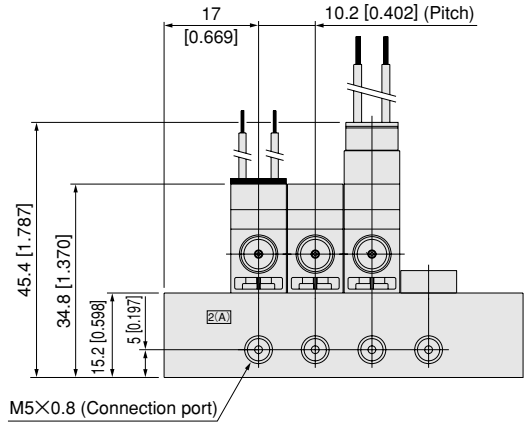
CS-G010MH□A (1(P), 3(R) port: Rc1/8)





Unit dimensions

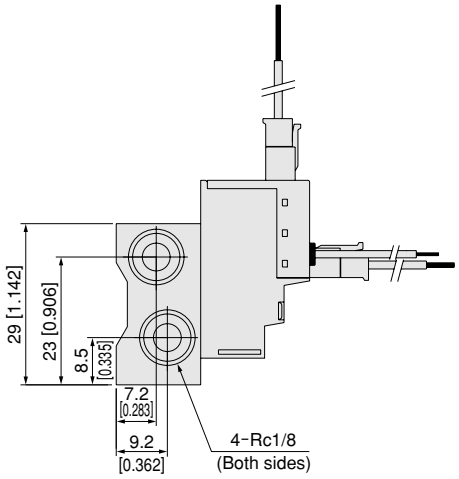
Number of units	L	P	Number of units	L	P
2	44.2 [1.740]	27.2 [1.071]	12	146.2 [5.756]	129.2 [5.087]
3	54.4 [2.142]	37.4 [1.472]	13	156.4 [6.157]	139.4 [5.488]
4	64.6 [2.543]	47.6 [1.874]	14	166.6 [6.559]	149.6 [5.890]
5	74.8 [2.945]	57.8 [2.276]	15	176.8 [6.961]	159.8 [6.291]
6	85 [3.346]	68 [2.677]	16	187 [7.362]	170 [6.693]
7	95.2 [3.748]	78.2 [3.079]	17	197.2 [7.764]	180.2 [7.094]
8	105.4 [4.150]	88.4 [3.480]	18	207.4 [8.165]	190.4 [7.496]
9	115.6 [4.551]	98.6 [3.882]	19	217.6 [8.567]	200.6 [7.898]
10	125.8 [4.953]	108.8 [4.283]	20	227.8 [8.969]	210.8 [8.299]
11	136 [5.354]	119 [4.685]	—	—	—

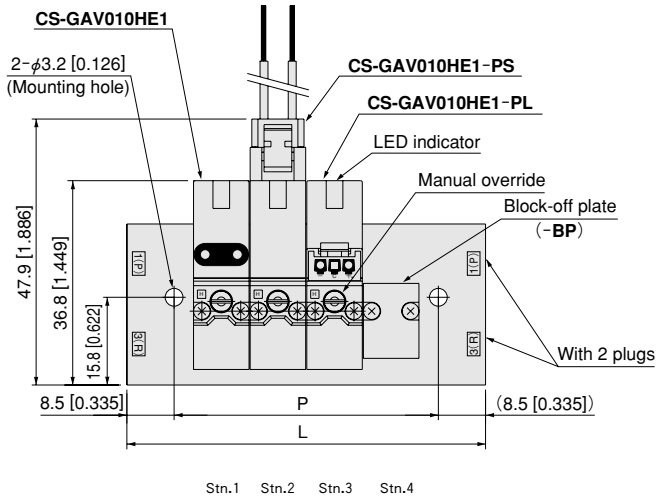


For optional wiring, see p.132.

Dimensions of A Type Manifold (for Manifold Piping with Vacuum Solenoid Valves) mm [in.]

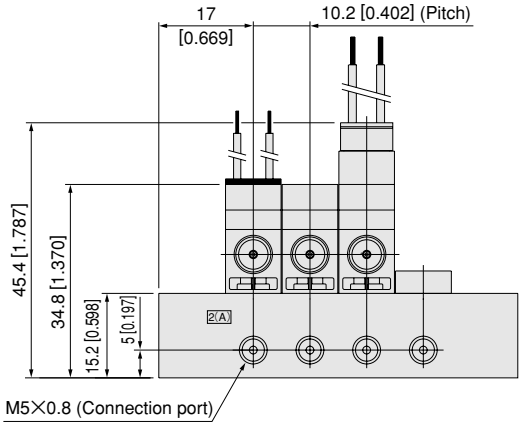
CS-G010MH□A (1(P), 3(R) port: Rc1/8)



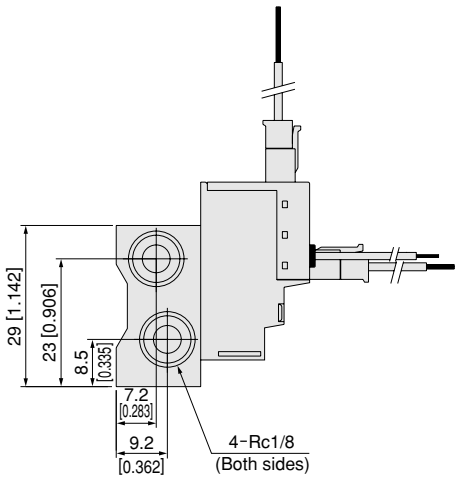


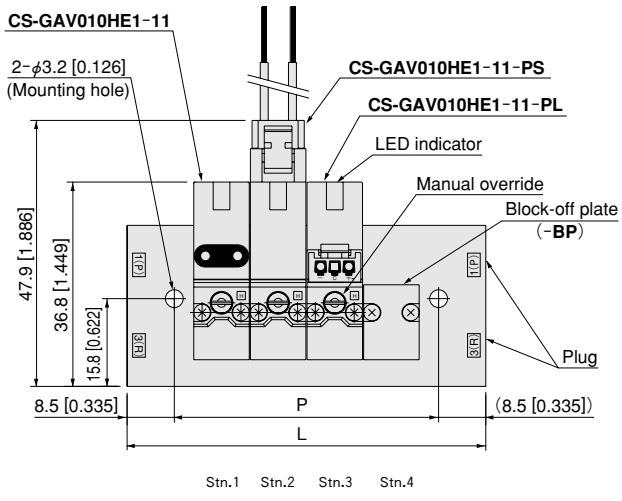
Unit dimensions

Number of units	L	P	Number of units	L	P
2	44.2 [1.740]	27.2 [1.071]	12	146.2 [5.756]	129.2 [5.087]
3	54.4 [2.142]	37.4 [1.472]	13	156.4 [6.157]	139.4 [5.488]
4	64.6 [2.543]	47.6 [1.874]	14	166.6 [6.559]	149.6 [5.890]
5	74.8 [2.945]	57.8 [2.276]	15	176.8 [6.961]	159.8 [6.291]
6	85 [3.346]	68 [2.677]	16	187 [7.362]	170 [6.693]
7	95.2 [3.748]	78.2 [3.079]	17	197.2 [7.764]	180.2 [7.094]
8	105.4 [4.150]	88.4 [3.480]	18	207.4 [8.165]	190.4 [7.496]
9	115.6 [4.551]	98.6 [3.882]	19	217.6 [8.567]	200.6 [7.898]
10	125.8 [4.953]	108.8 [4.283]	20	227.8 [8.969]	210.8 [8.299]
11	136 [5.354]	119 [4.685]	—	—	—



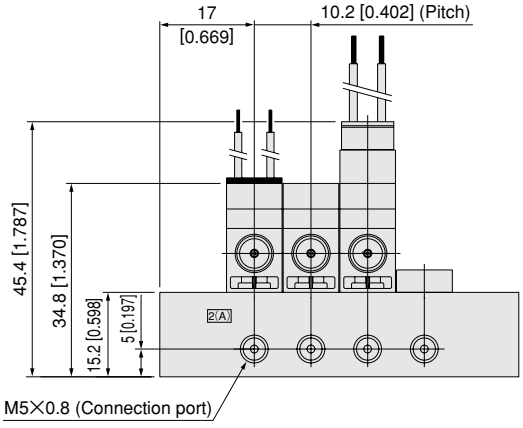
CS-G010MH□A (1(P), 3(R) port: Rc1/8)





Unit dimensions

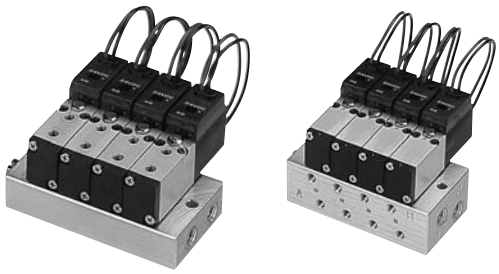
Number of units	L	P	Number of units	L	P
2	44.2 [1.740]	27.2 [1.071]	12	146.2 [5.756]	129.2 [5.087]
3	54.4 [2.142]	37.4 [1.472]	13	156.4 [6.157]	139.4 [5.488]
4	64.6 [2.543]	47.6 [1.874]	14	166.6 [6.559]	149.6 [5.890]
5	74.8 [2.945]	57.8 [2.276]	15	176.8 [6.961]	159.8 [6.291]
6	85 [3.346]	68 [2.677]	16	187 [7.362]	170 [6.693]
7	95.2 [3.748]	78.2 [3.079]	17	197.2 [7.764]	180.2 [7.094]
8	105.4 [4.150]	88.4 [3.480]	18	207.4 [8.165]	190.4 [7.496]
9	115.6 [4.551]	98.6 [3.882]	19	217.6 [8.567]	200.6 [7.898]
10	125.8 [4.953]	108.8 [4.283]	20	227.8 [8.969]	210.8 [8.299]
11	136 [5.354]	119 [4.685]	—	—	—



For optional wiring, see p.132.

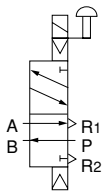
KOGANEI CLEAN SYSTEM

SOLENOID VALVES
010-4E1 SERIES



Symbol

5-port, 2-position
Single solenoid



Specifications

Item \ Basic model	For direct piping, F type manifold	**CS-010-4E1**
	For A type manifold	**CS-A010-4E1** Note2
Number of positions		2 positions
Number of ports		5 ports
Valve function		Single solenoid
Media		Air
Operation type		Internal pilot type
Effective area〔Cv〕 mm²		P→A 0.2〔0.01〕 A→R1, B→R2 0.3〔0.02〕
Port size		M3×0.5
Lubrication		Not required
Operating pressure range MPa [psi.]		0.15～0.7 [22～102]
Proof pressure MPa [psi.]		1.05 [152]
Response time Note 1 ms ON/OFF	DC5V, DC12V	4/8 or below
	DC6V, DC24V	4/8 or below
Maximum operating frequency Hz		5
Minimum time to energize for self holding ms		—
Operating temperature range (atmosphere and media) °C [°F]		5～50 [41～122]
Shock resistance m/s² {G}		1373.0 {140} (Axial direction 392.3 {40})
Mounting direction		Any

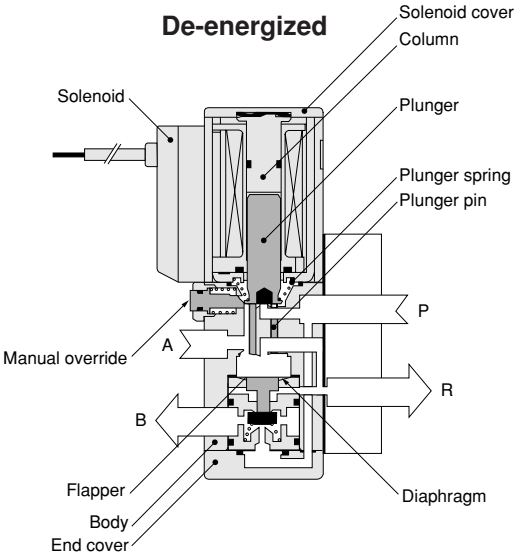
Notes: 1. Values when air pressure is 0.5MPa [73psi.].
2. **CS-A010-4E1** is for A type manifolds only. It cannot be used as a single unit.

Solenoid Specifications

Item \ Rated voltage		**DC5V**	**DC6V**	**DC12V**	**DC24V**
Type		With built-in flywheel diodes for surge suppression			
Operating voltage range DC 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%)
Current (Power consumption when rated voltage is applied) mA (W)		325 (1.6) 〔335 (1.7) with LED indicator〕	270 (1.6) 〔280 (1.7) with LED indicator〕	130 (1.6) 〔140 (1.7) with LED indicator〕	70 (1.7) 〔80 (1.9) with LED indicator〕
Maximum allowable leakage current mA		30	25	15	5
Insulation resistance MΩ		Over 100			
Wiring type	Standard	Grommet type			
	Optional	Plug connector type			
Lead wire length		300mm [11.8in.]			
Color of lead wire		Green (+) Black (−)	Blue (+) Black (−)	Brown (+) Black (−)	Red (+) Black (−)
Color of LED indicator		Red			
Surge suppression (as standard)		Flywheel diode			

●5-port

CS-010-4E1-24
De-energized



Major Parts and Materials

Parts		Materials
Valve	Body	Aluminum alloy(anodized)
	Stem	
	Flapper	Synthetic rubber (NBR)
	Mounting base	Mild steel (nickel plated)
	Sub-base	Aluminum alloy (anodized)
	Plunger	Magnetic stainless steel
	Column	
Manifold	Body	Aluminum alloy (anodized)
	Block-off plate	Mild steel (nickel plated)
	Seal	Synthetic rubber (NBR)

Order Codes

CS-010E1 – [ ] – [ ] – [ ] – [ ] – **DC24V**

Clean system 010 series valve basic model		Number of ports	Mounting base		Sub-base		Wiring type			Voltage
		3-port	Without mounting base	With mounting base	Without sub-base	With sub-base	Grommet	Straight connector / With LED indicator	L connector / With LED indicator	
●For sub-base-mounted units (cannot be used for units without sub-base) ●For A type manifold	**CS-A010-4E1** 5-port	——	——		**Blank**	**- 25**	**Blank**	**- PSL**	**PLL**	**DC5V** **DC6V** **DC12V** **DC24V**
●For direct piping ●For F type manifold only	**CS-010-4E1** 5-port	——	**Blank**	**- 21** Note	**Blank** ※Cannot be used as a single unit.	**- 24**				

Note: With-mounting base (-21) specification can be used only with-sub-base specification (-24).

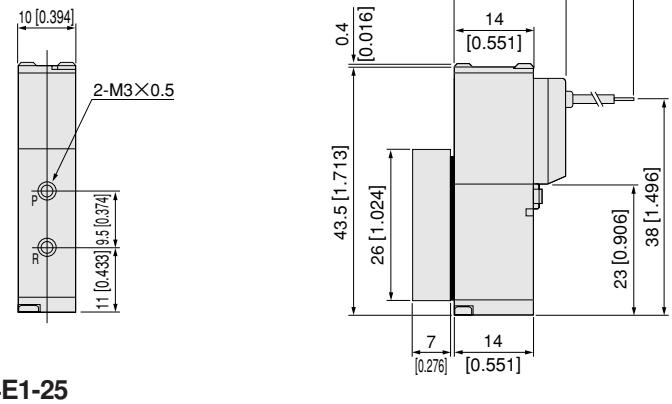
Manifold Order Codes

CS-010M [ ] [ ] [ ] [ ]

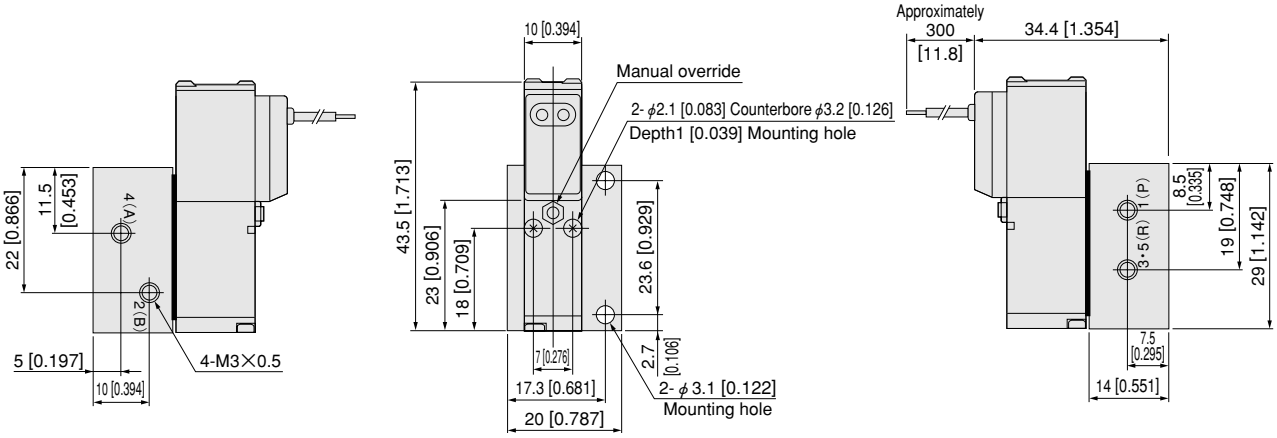
Clean system 010 series manifold basic model	Number of units	Manifold model	Station	Clean system mounting valve model
CS-010M **CS-010MB**	**2** : 2 units **3** : 3 units ⋮ **20** : 20 units	**F** : F type ●For 2-, 3-port, F type manifold (PR common)—Dedicated for CS-010M ●For 5-port, F type manifold (PR common)—Dedicated for CS-010MB **A** : A type ●For 2-, 3-port, A type manifold (PR common, side A)—Dedicated for CS-010M ●For 5-port, A type manifold (PR common, sides A, B)—Dedicated for CS010MB	●Valve mounting position from left, as viewed from the front **Stn.1** : First **Stn.2** : Second **Stn.3** : Third ⋮ **Stn.20** : 20th	●For details of valve models, see the order codes listed above. ●Enter **CS-BP** when closing a station with a block-off plate without mounting a valve.

Dimensions of Solenoid Valve mm [in.]

●CS-010-4E1-24

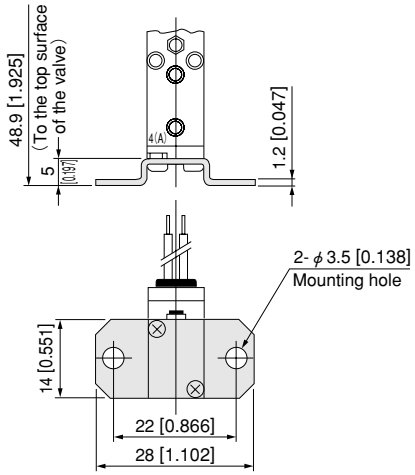


●CS-A010-4E1-25

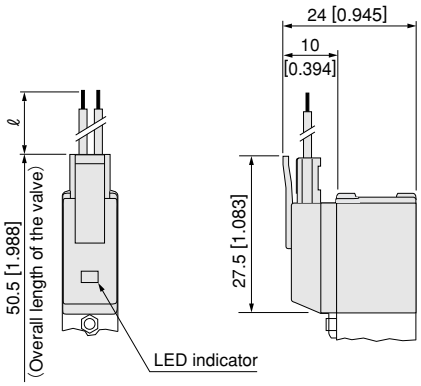


●Options

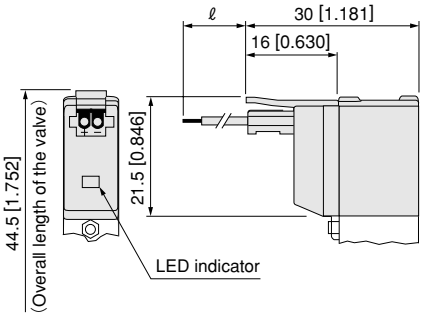
●Mounting base: **-21**



●Solenoid with straight connector: **-PSL**

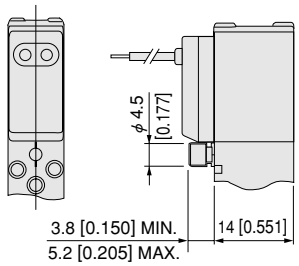


●Solenoid with L connector: **-PLL**

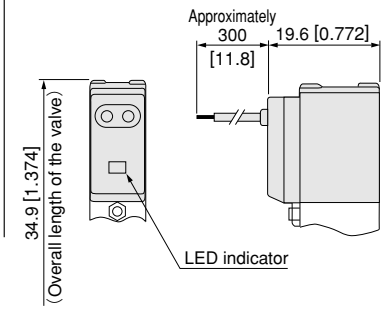


●Made to Order

●Locking protruding type manual override: **-83**



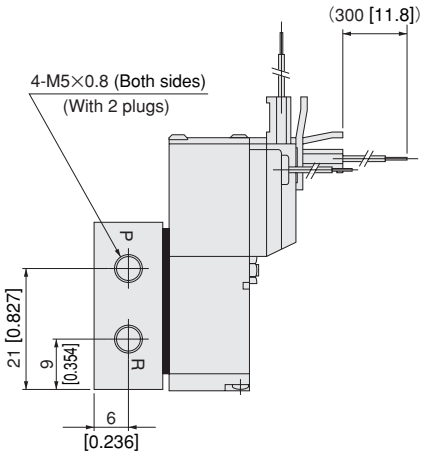
●Grommet type with LED indicator: **-L**

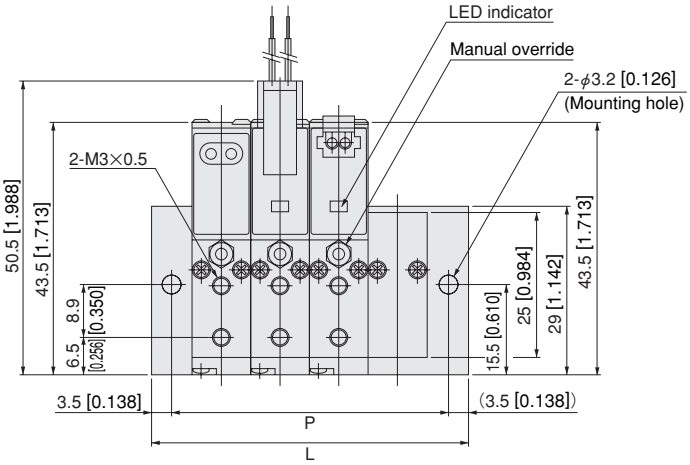


Model \ Code		ℓ (Lead wire length)
-PSL, -PLL, -L (standard length)		300 [11.8]
Made to order	**-1L**	1000 [39]
	-3L	3000 [118]

Dimensions of Manifold for Combination Mounting of 2-, 3-, 5-port Valves mm [in.]

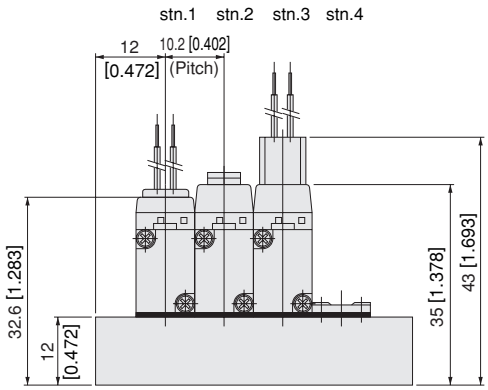
●CS-010MB□F





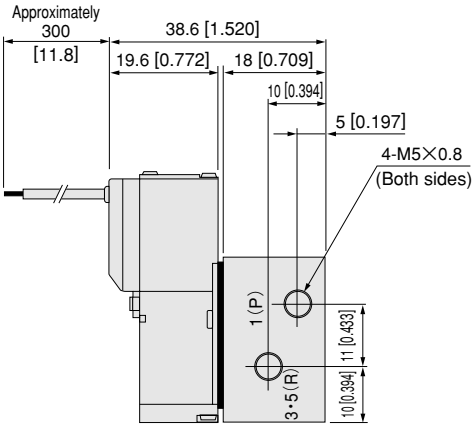
Unit dimensions

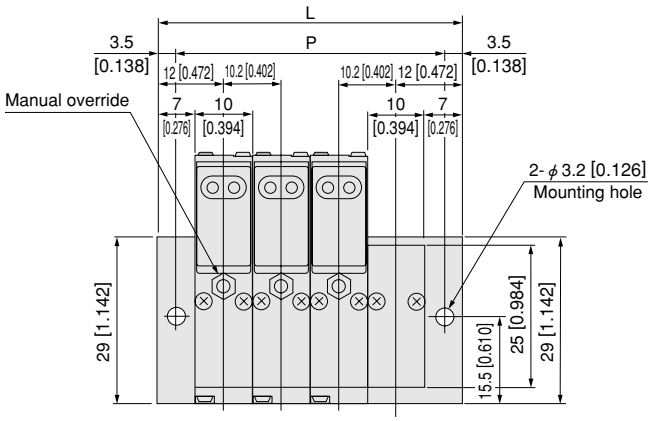
Model	P	L
CS-010MB2F	27.2 [1.071]	34.2 [1.346]
CS-010MB3F	37.4 [1.472]	44.4 [1.748]
CS-010MB4F	47.6 [1.874]	54.6 [2.150]
CS-010MB5F	57.8 [2.276]	64.8 [2.551]
CS-010MB6F	68 [2.677]	75 [2.953]
CS-010MB7F	78.2 [3.079]	85.2 [3.354]
CS-010MB8F	88.4 [3.480]	95.4 [3.756]
CS-010MB9F	98.6 [3.882]	105.6 [4.157]
CS-010MB10F	108.8 [4.283]	115.8 [4.559]
CS-010MB11F	119 [4.685]	126 [4.961]
CS-010MB12F	129.2 [5.087]	136.2 [5.362]
CS-010MB13F	139.4 [5.488]	146.4 [5.764]
CS-010MB14F	149.6 [5.890]	156.6 [6.165]
CS-010MB15F	159.8 [6.291]	166.8 [6.567]
CS-010MB16F	170 [6.693]	177 [6.969]
CS-010MB17F	180.2 [7.094]	187.2 [7.370]
CS-010MB18F	190.4 [7.496]	197.4 [7.772]
CS-010MB19F	200.6 [7.898]	207.6 [8.173]
CS-010MB20F	210.8 [8.299]	217.8 [8.575]

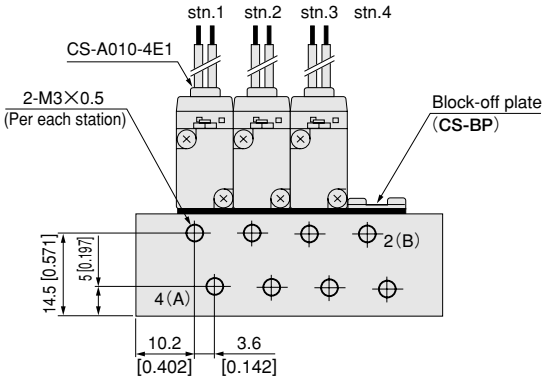


Dimensions of Manifold for Combination Mounting of 2-, 3-, 5-port Valves mm [in.]

●CS-010MB□A





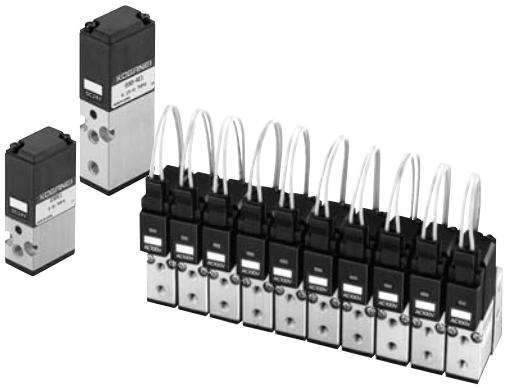


Unit dimensions

Model	P	L
CS-010MB2A	27.2 [1.071]	34.2 [1.346]
CS-010MB3A	37.4 [1.472]	44.4 [1.748]
CS-010MB4A	47.6 [1.874]	54.6 [2.150]
CS-010MB5A	57.8 [2.276]	64.8 [2.551]
CS-010MB6A	68 [2.677]	75 [2.953]
CS-010MB7A	78.2 [3.079]	85.2 [3.354]
CS-010MB8A	88.4 [3.480]	95.4 [3.756]
CS-010MB9A	98.6 [3.882]	105.6 [4.157]
CS-010MB10A	108.8 [4.283]	115.8 [4.559]
CS-010MB11A	119 [4.685]	126 [4.961]
CS-010MB12A	129.2 [5.087]	136.2 [5.362]
CS-010MB13A	139.4 [5.488]	146.4 [5.764]
CS-010MB14A	149.6 [5.890]	156.6 [6.165]
CS-010MB15A	159.8 [6.291]	166.8 [6.567]
CS-010MB16A	170 [6.693]	177 [6.969]
CS-010MB17A	180.2 [7.094]	187.2 [7.370]
CS-010MB18A	190.4 [7.496]	197.4 [7.772]
CS-010MB19A	200.6 [7.898]	207.6 [8.173]
CS-010MB20A	210.8 [8.299]	217.8 [8.575]

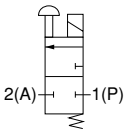
KOGANEI CLEAN SYSTEM

SOLENOID VALVES
030 SERIES

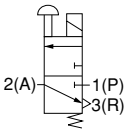


Symbols

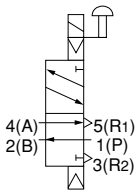
2-port Normally closed (NC)



3-port Normally closed (NC)



5-port, 2-position Single solenoid



Specifications

Item \ Basic model: For direct piping, T, F, F01 type manifolds	CS-030E1	CS-030-4E1	CS-V030E1
Number of positions	2 positions		
Number of ports	2, 3 ports	5 ports	2, 3 ports
Valve function	Normally closed (NC)	Single solenoid	Normally closed (NC)
Media	Air		Vacuum
Operation type	Direct acting type	Internal pilot type	Direct acting type
Effective area〔Cv〕 mm²	1(P)→2(A)0.6〔0.03〕 2(A)→3(R)0.8〔0.04〕	1(P)→4(A),2(B)0.6〔0.03〕 4(A)→5(R1), 2(B)→3(R2)0.8〔0.04〕	1(P)→2(A)0.6〔0.03〕 2(A)→3(R)0.8〔0.04〕
Port size Note1	M5×0.8		
Lubrication	Not required		
Operating pressure range MPa[psi.]	0～0.7 [0～102]	0.15～0.7 [22～102]	–100kPa～0 [–29.53in.Hg～0]
Proof pressure MPa[psi.]	1.05 [152]		——
Response time ON/OFF ms — DC12V, DC24V	10/25 or below		
Response time ON/OFF ms — AC100V, AC200V	15/40 or below		
Maximum operating frequency Hz	5		
Operating temperature range (atmosphere and media) ℃[°F]	5～50 [41～122]		
Shock resistance m/s² {G}	117.7 [12]		
Mounting direction	Any		

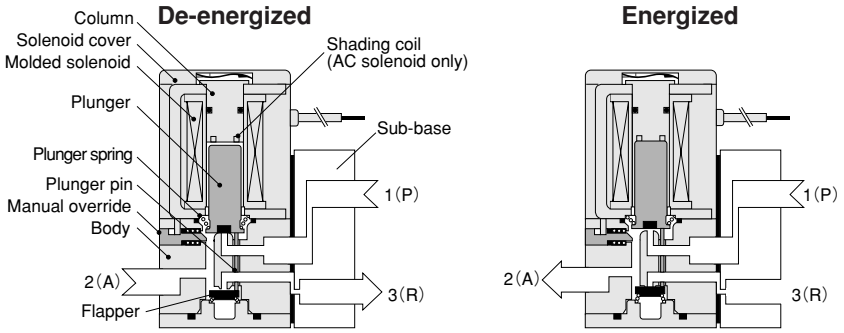
Solenoid Specifications

Item \ Rated voltage	DC12V	DC24V	AC100V		AC200V	
Type	Flywheel diode incorporated for surge suppression		Shading type			
Operating voltage range V	10.8～13.2 (12±10%)	21.6～26.4 (24±10%)	90～132 (100^{+32}_{-10}%)		180～264 (200^{+32}_{-10}%)	
Current (when rated voltage is applied) — Frequency Hz	—	—	50	60	50	60
Current (when rated voltage is applied) — Starting mA (r.m.s.)	—	—	36	32	18	16
Current (when rated voltage is applied) — Energizing mA (r.m.s.)	130 (1.6W) 〔140 (1.7W) with LED indicator〕	65 (1.6W) 〔75 (1.8W) with LED indicator〕	24	20	12	10
Maximum allowable leakage current mA	8	4	4		2	
Insulation resistance MΩ	Over 100					
Wiring type and lead wire length — Standard	Grommet type: 300mm [11.8in.]					
Wiring type and lead wire length — Optional	Plug connector type: 300mm [11.8in.] Note: See made to order on p.151.					
Color of lead wire	Brown (+) Black (–)	Red (+) Black (–)	Yellow		White	
Color of LED indicator	Red		Yellow		Green	
Surge suppression (as standard)	Flywheel diode		Varistor			

Inner Construction and Major Parts

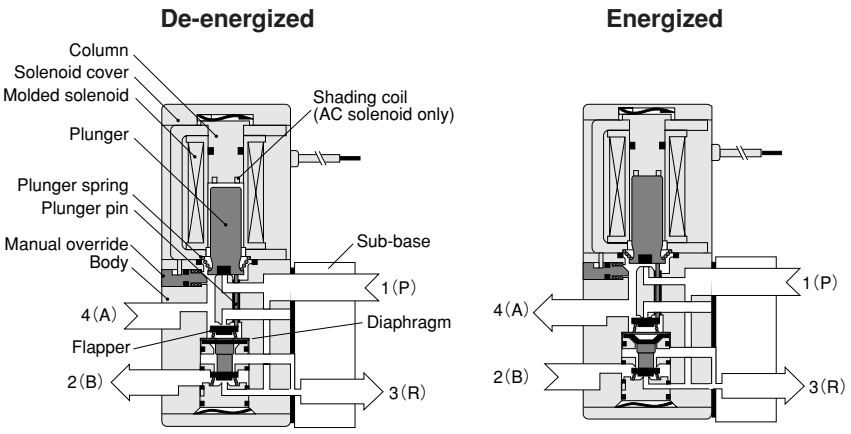
●2, 3-port

CS-030E1-24



●5-port

CS-030-4E1-24



Major Parts and Materials

CS-030E1

Parts	Materials
Body	Aluminum alloy (anodized)
O-ring	Synthetic rubber (NBR)
Flapper	
Plunger	Magnetic stainless steel
Column	
Spring	Stainless steel
Sub-base	Aluminum alloy (anodized)
Mounting base	Mild steel (nickel plated)

CS-030-4E1

Parts	Materials
Body	Aluminum alloy (anodized)
O-ring	Synthetic rubber (NBR)
Flapper	
Diaphragm	Synthetic rubber (urethane)
Plunger	Magnetic stainless steel
Column	
Spring	Stainless steel
Sub-base	Aluminum alloy (anodized)
Mounting base	Mild steel (nickel plated)

Manifold Materials

Parts	Materials
Manifold body	Aluminum alloy (anodized)
Block-off plate	Mild steel (nickel plated)
Bracket	
Seal	Synthetic rubber (NBR)

Order Codes

CS - 030E1 – [ ] – [ ] – [ ] – [ ] – **AC100V**

Clean system 030 series valve basic model	Number of ports		Sub-base		Manual override		Solenoid			Voltage
	3-port	2-port	Without sub-base (For manifold)	With sub-base (For single unit)	Non-locking type (Standard)	Locking protruding type	Grommet (Standard)	Straight connector (With LED indicator)	L connector (With LED indicator)	
CS - 030E1 2-, 3-port for positive pressure	**Blank**	**- 2**	**Blank** ※Cannot be used as a single unit.	**- 24**	**Blank**	**- 83**	**Blank**	**- PSL**	**- PLL**	**DC12V** **DC24V** **AC100V** **AC200V**
CS - 030 - 4E1 5-port for positive pressure	——									
CS - V030 E1 2-, 3-port for vacuum	**Blank**	**- 2**								

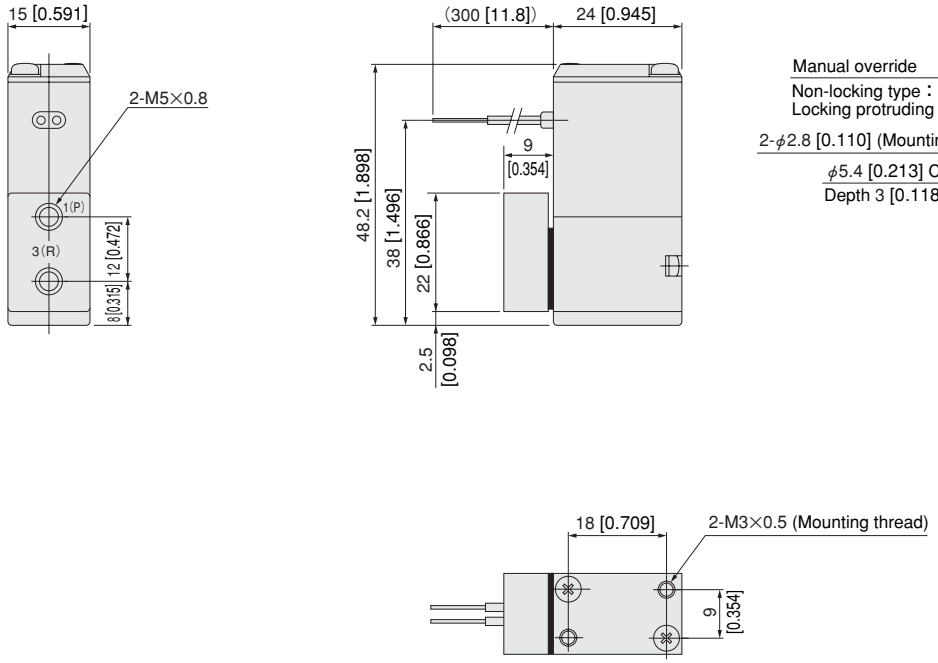
Manifold Order Codes

CS - YM [ ] [ ] [ ] [ ]

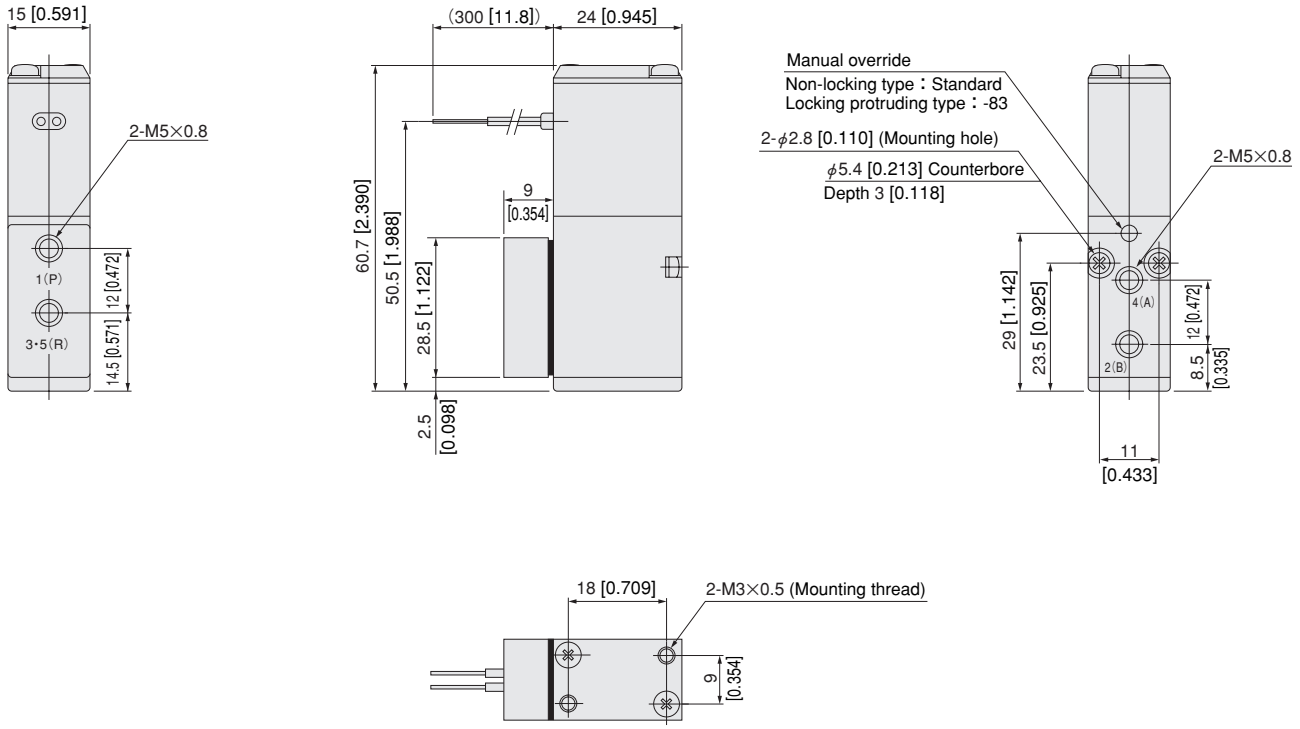
Clean system 030 series manifold basic model	Number of units	Manifold model	Station	Clean system mounting valve model
CS-YM	**2** : 2 units **3** : 3 units ⋮ **10** : 10 units ⋮ **20** : 20 units ●For 11 or more stations, use **F01** only.	**T** : T type (2-, 3-port only) **F** : F type ((2-, 3-, 5-port only)) **F01** : F01 type (Combination mounting of 2-, 3-, 5-port. Connecting port Rc1/8.)	●Valve mounting position from left, as viewed from the front **Stn.1** : First **Stn.2** : Second ⋮ **Stn.20** : 20th	●When using a manifold-mounted valve as a single unit, mount a sub-base for the piping. ●For details of valve models, see the order codes listed above. ●Enter **CS-BP** when closing a station with a block-off plate without mounting a valve.

Dimensions of Solenoid Valve mm [in.]

●CS-030E1-24

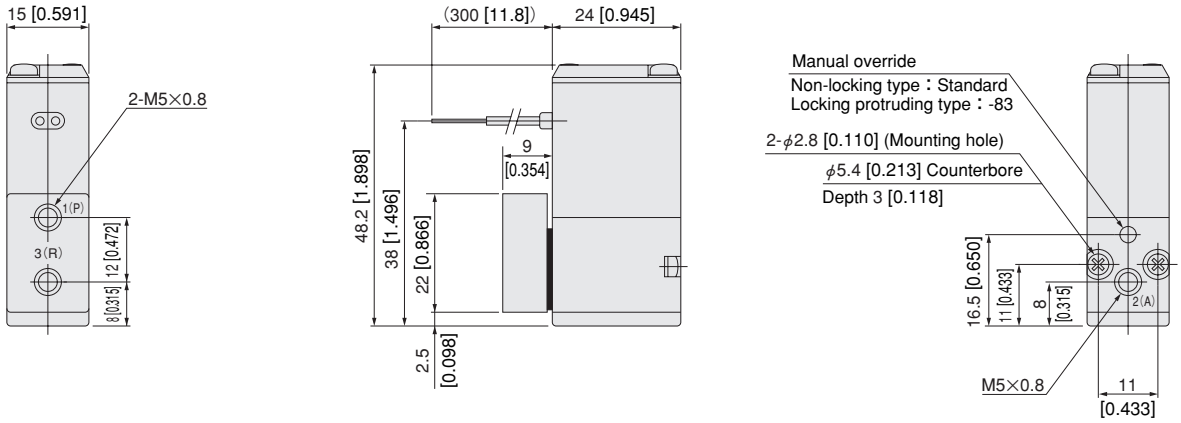


●CS-030-4E1-24



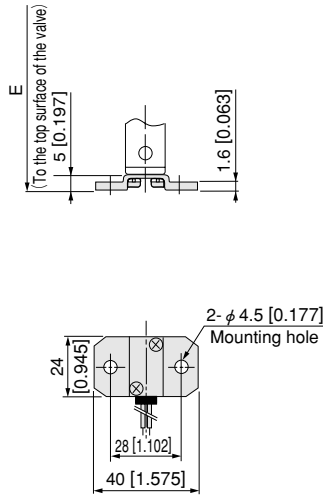
Dimensions of Solenoid Valve mm [in.]

●CS-V030E1-24



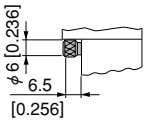
Additional Parts (To be ordered separately)

●Mounting base : **030-21**

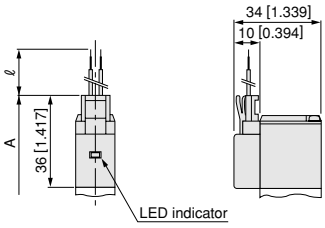


●Options

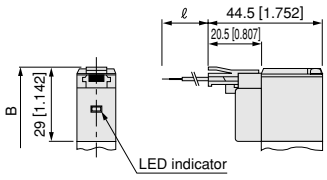
●Locking protruding type manual override : **-83**



●Solenoid with straight connector : **-PSL**



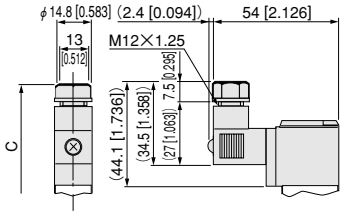
●Solenoid with L connector : **-PLL**



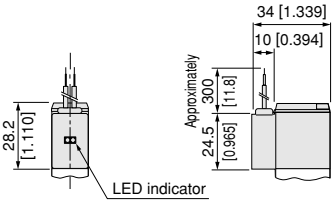
※The lead wire direction is to the side with the manual override and 4(A), 2(B) port.

●Made to Order

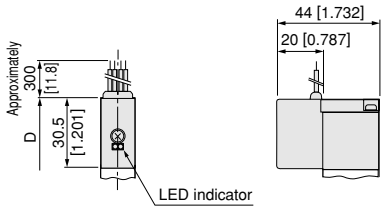
●Solenoid with DIN connector : **-39**



●Solenoid with LED indicator : **-L**



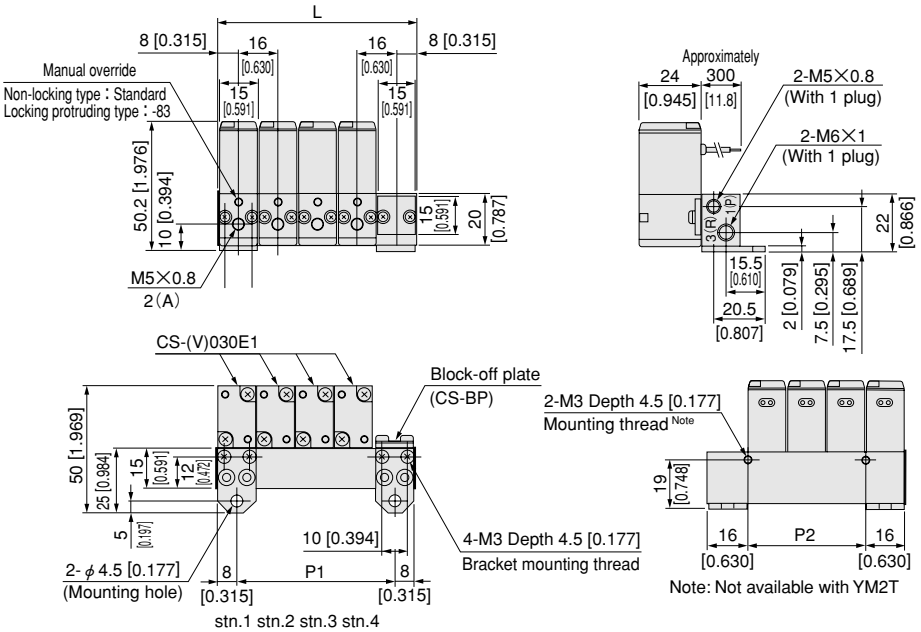
●Built-in interface unit : **-FA**



Model \ Code	A	B	C	D	E	ℓ (Lead wire length)	Remark
CS-030E1, CS-V030E1	56 [2.205]	49 [1.929]	64.1 [2.524]	50.5 [1.988]	53.2 [2.094]	**-PSL, -PLL**: 300 [11.8] Made to order: **-1L**: 1000 [39], **-3L**: 3000 [118]	Overall length to the end of the valve
CS-030-4E1	68.5 [2.697]	61.5 [2.421]	76.6 [3.016]	63 2.480]	65.7 [2.587]		

Dimensions of Manifold for 2-, 3-port Valve mm [in.]

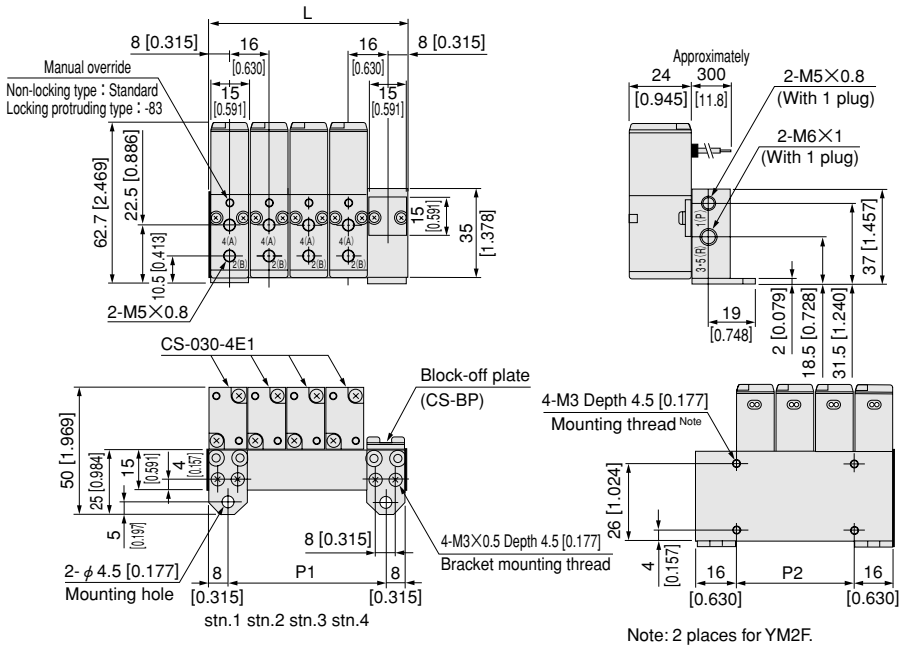
●CS-YM□T



Unit dimensions

Model	L	P1	P2
CS-YM2T	32 [1.260]	16 [0.630]	—
CS-YM3T	48 [1.890]	32 [1.260]	16 [0.630]
CS-YM4T	64 [2.520]	48 [1.890]	32 [1.260]
CS-YM5T	80 [3.150]	64 2.520]	48 [1.890]
CS-YM6T	96 [3.780]	80 [3.150]	64 [2.520]
CS-YM7T	112 [4.409]	96 [3.780]	80 [3.150]
CS-YM8T	128 [5.039]	112 [4.409]	96 [3.780]
CS-YM9T	144 [5.669]	128 [5.039]	112 [4.409]
CS-YM10T	160 [6.299]	144 [5.669]	128 [5.039]

●CS-YM□F

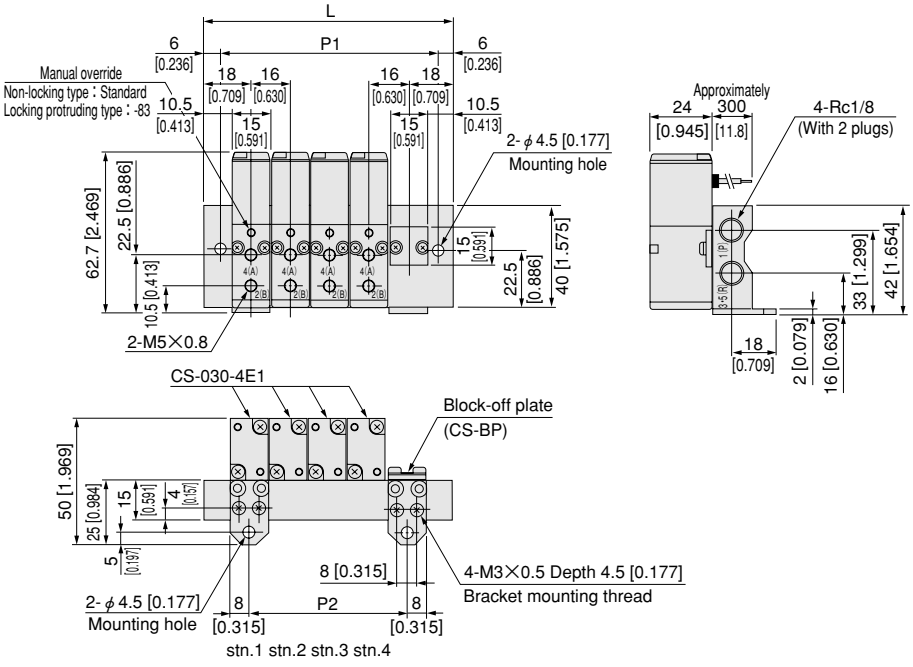


Note: 2 places for YM2F.

Unit dimensions

Model	L	P1	P2
CS-YM2F	32 [1.260]	16 [0.630]	—
CS-YM3F	48 [1.890]	32 [1.260]	16 [0.630]
CS-YM4F	64 [2.520]	48 [1.890]	32 [1.260]
CS-YM5F	80 [3.150]	64 [2.520]	48 [1.890]
CS-YM6F	96 [3.780]	80 [3.150]	64 [2.520]
CS-YM7F	112 [4.409]	96 [3.780]	80 [3.150]
CS-YM8F	128 [5.039]	112 [4.409]	96 [3.780]
CS-YM9F	144 [5.669]	128 [5.039]	112 [4.409]
CS-YM10F	160 [6.299]	144 [5.669]	128 [5.039]

●CS-YM□F01

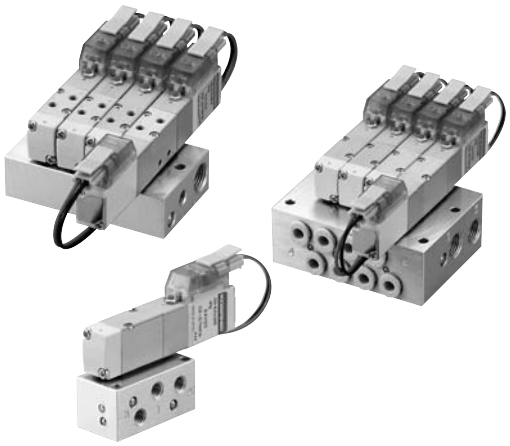


Unit dimensions

Model	L	P1	P2
CS-YM2F01	52 [2.047]	40 [1.575]	16 [0.630]
CS-YM3F01	68 [2.677]	56 [2.205]	32 [1.260]
CS-YM4F01	84 [3.307]	72 [2.835]	48 [1.890]
CS-YM5F01	100 [3.937]	88 [3.465]	64 [2.520]
CS-YM6F01	116 [4.567]	104 [4.094]	80 [3.150]
CS-YM7F01	132 [5.197]	120 [4.724]	96 [3.780]
CS-YM8F01	148 [5.827]	136 [5.354]	112 [4.409]
CS-YM9F01	164 [6.457]	152 [5.984]	128 [5.039]
CS-YM10F01	180 [7.087]	168 [6.614]	144 [5.669]
CS-YM11F01	196 [7.717]	184 [7.244]	160 [6.299]
CS-YM12F01	212 [8.346]	200 [7.874]	176 [6.929]
CS-YM13F01	228 [8.976]	216 [8.504]	192 [7.559]
CS-YM14F01	244 [9.606]	232 [9.134]	208 [8.189]
CS-YM15F01	260 [10.236]	248 [9.764]	224 [8.819]
CS-YM16F01	276 [10.866]	264 [10.394]	240 [9.449]
CS-YM17F01	292 [11.496]	280 [11.024]	256 [10.079]
CS-YM18F01	308 [12.126]	296 [11.654]	272 [10.709]
CS-YM19F01	324 [12.756]	312 [12.283]	288 [11.339]
CS-YM20F01	340 [13.386]	328 [12.913]	304 [11.969]

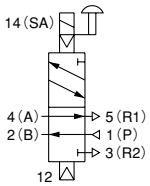
KOGANEI CLEAN SYSTEM

SOLENOID VALVES
EA SERIES

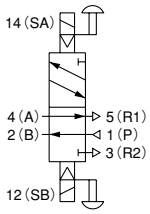


Symbols

single solenoid 5-port



Double solenoid 5-port



Specifications

Basic Models and Functions

Item \ Basic model				
	For direct piping, FE type manifold	**CS-EA10□F1**Note **CS-EA10□F2**Note **CS-EA10□F3**Note **CS-EA10□F4**Note	**CS-EA10□F5**	**CS-EA10□F6**
	For base piping, A, AJ type manifolds	**CS-EA10□A1**Note **CS-EA10□A2**Note **CS-EA10□A3**Note **CS-EA10□A4**Note	**CS-EA10□A5**	**CS-EA10□A6**
Number of positions		2 positions		
Number of ports		2, 3 ports	5 ports	
Valve function		Single solenoid NC, NO	Single solenoid	Double solenoid

Remark: For the optional specifications and order codes, see p.157.
Note: Valves with valve specifications **F1**, **F2**, **F3**, **F4**, **A1**, **A2**, **A3**, and **A4** are for mounting on manifolds only, and cannot be used as single valve units.

Port Size

Specification \ Port		2(B), 4(A)	1(P)	3, 5(R)	PR
Single unit	Direct piping	M3×0.5	M3×0.5	M3×0.5	——
	Base piping (with sub-base)	M5×0.8	M5×0.8	M5×0.8	M5×0.8
Manifold	FE type	M3×0.5	M5×0.8	Rc1/8	——
	A type	M5×0.8	Rc1/8	Rc1/8	Collected at 3, 5 (R) port
	AJ type	Quick fitting for ϕ4	Rc1/8	Rc1/8	

Specifications

Item \ Basic model					
	For direct piping, FE type manifold	**CS-EA10□F1 CS-EA10□F2 CS-EA10□F3 CS-EA10□F4**	**CS-EA10□F5**	**CS-EA10□F6**
	For base piping, A, AJ type manifolds	**CS-EA10□A1 CS-EA10□A2 CS-EA10□A3 CS-EA10□A4**	**CS-EA10□A5**	**CS-EA10□A6**
Media		Air		
Operation type		Internal pilot type		
Flow rate characteristics	Sonic conductance C dm³/(s・bar)	Base piping (A, AJ types): 0.26		
	Effective area S〔Cv〕 mm²	Direct piping (FE type): 1.3〔0.07〕		
Port size[Note 1]		M3×0.5		
Lubrication		Not required		
Operating pressure range	MPa [psi.]	0.2～0.7 [29～102]		
Proof pressure	MPa [psi.]	1.05 [152]		
Response time[Note 2] ON/OFF ms	Standard type	10/20 or below		12 or below
	Low current type (L)	10/50 or below		12 or below
	Quick response type (S)	6/7 or below		6 or below
Maximum operating frequency Hz	Standard type	5		
	Low current type (L)	2		
	Quick response type (S)	10		
Minimum time to energize for self holding[Note 3] ms		—		50
Operating temperature range (atmosphere and media) °C [°F]		5～50 [41～122]		
Shock resistance	m/s² {G}	1373.0 {140} (Axial direction 294.2 {30})		1373.0 {140} (Axial direction 147.1 {15})
Mounting direction		Any		

Notes: 1. For details, see the port size on p.154.
2. Values when air pressure is 0.5MPa [73psi.].
3. For double solenoid valves.

Solenoid Specifications

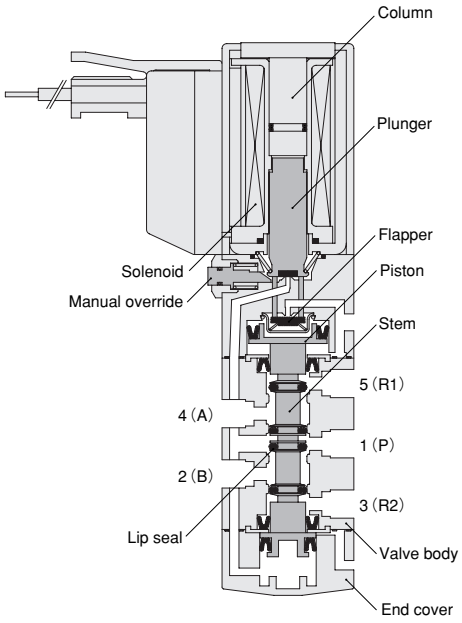
Item \ Rated voltage			DC12V (Standard type)	DC24V (Standard type)	DC24V (Low current type)	DC24V (Quick response type)
Operating voltage range		V	10.8～13.2 (12±10%)	21.6～26.4 (24±10%)	21.6～26.4 (24±10%)	21.6～26.4 (24±10%)
Standard type	Current (when rated voltage is applied)	mA (r.m.s)	46	23	—	—
	Power consumption	W	0.55	0.55	—	—
Low current type Quick response type	Current (when rated voltage is applied)	Starting mA	—	—	23	125
		Holding mA	—	—	6.3	46
	Power consumption	Starting W	—	—	0.55	3
		Holding W	—	—	0.15	1.1
	Start-up time (standard time)	ms	—	—	200 or below	30 or below
Allowable leakage current		mA	2	1	0.5	4
Insulation resistance		MΩ	Over 100 (value at DC500V megger)			
Color of LED indicator			Red			
Surge suppression (as standard)			Flywheel diode			

5-port, 2-position

Single solenoid

CS-EA10F5

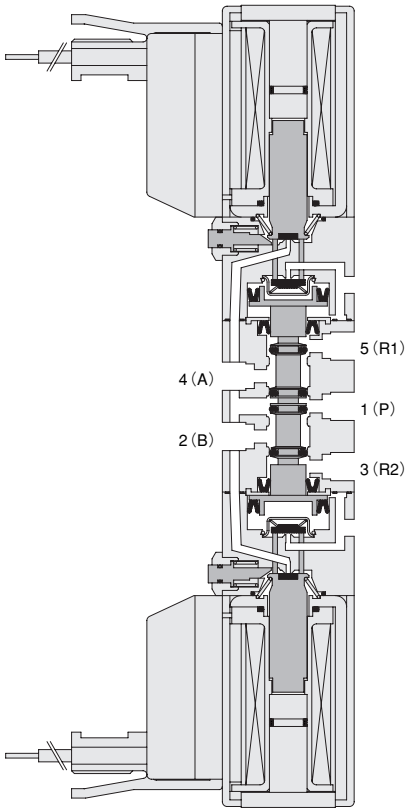
De-energized



Double solenoid

CS-EA10F6

〔De-energized condition after energizing solenoid 12(SB)〕



Major Parts and Materials

Parts		Materials
Valve	Body	Aluminum alloy (anodized)
	Stem	
	Lip seal	Synthetic rubber
	Flapper	
	Mounting base	Mild steel (zinc plated)
	Sub-base	Aluminum alloy (anodized)
	Plunger	Magnetic stainless steel
	Column	
	End cover	Plastic
Manifold	Body	Aluminum alloy (anodized)
	Block-off plate	Mild steel (nickel plated)
	Seal	Synthetic rubber

EA Series Single Valve Unit for Manifold/Sub-base Order Codes

Model

CS-EA10
Standard type

CS-EA10L
Low current type

CS-EA10S
Quick response type

Valve specification

F1, **A1**: 2-port normally closed (NC)[Note1]

F2, **A2**: 2-port normally open (NO)[Note1]

F3, **A3**: 3-port normally closed (NC)[Note1]

F4, **A4**: 3-port normally open (NO)[Note1]

F5, **A5**: 5-port 2-position, single solenoid

F6, **A6**: 5-port 2-position, double solenoid

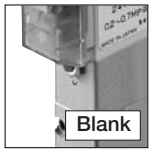
Sub-base

Without sub-base

With sub-base

Manual override

Blank: Non-locking type



-83: Locking protruding type

Wiring specification

S type plug connector
Lead wire 300mm [11.8in.]

L type plug connector
Lead wire 300mm [11.8in.]

S type plug connector
Lead wire 1000mm [39in.]

L type plug connector
Lead wire 1000mm [39in.]

S type plug connector
Lead wire 3000mm [118in.]

L type plug connector
Lead wire 3000mm [118in.]

S type plug connector
Without connector ass'y

L type plug connector
Without connector ass'y

Grommet type[Note3]
Lead wire 300mm [11.8in.]
(moisture proof specification)

Voltage

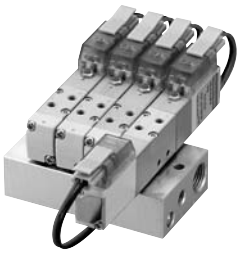
-D4
DC24V

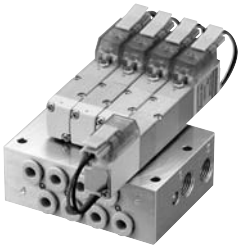
-D5
DC12V[Note4]

	Model	Valve specification	Sub-base	Manual override	Wiring specification	Voltage
Direct piping	**CS-EA10** **CS-EA10L** **CS-EA10S**	**F1**[Note1] **F2**[Note1] **F3**[Note1] **F4**[Note1]		**Blank** **-83**[Note2]	**-PS** **-PS1** **-PS3** **-PSN** **-PL** **-PL1** **-PL3** **-PLN** **-GL**[Note3]	**-D4** **-D5**[Note4]
		F5[Note1]				
		F6[Note1]				
Base piping	**CS-EA10** **CS-EA10L** **CS-EA10S**	**A1**[Note1] **A2**[Note1] **A3**[Note1] **A4**[Note1]	**Blank** **-25**	**Blank** **-83**[Note2]	**-PS** **-PS1** **-PS3** **-PSN** **-PL** **-PL1** **-PL3** **-PLN** **-GL**[Note3]	**-D4** **-D5**[Note4]
		A5 **A6**				

Notes: 1. Valves with valve specifications **F1**, **F2**, **F3**, **F4**, **F5**, **F6**, **A1**, **A2**, **A3**, and **A4** are for mounting on manifolds only, and cannot be used as single valve units.
2. The locking protruding type manual override is not available in the quick response type **CS-EA10S**.
3. The grommet type is not available in the low current type **CS-EA10L** and quick response type **CS-EA10S**.
4. The DC12V specification is not available in the low current type **CS-EA10L** and quick response type **CS-EA10S**.

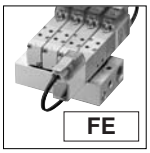
EA Series Manifold Order Codes



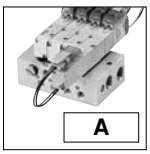


Manifold specification

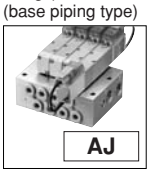
FE type (direct piping type)



A type (base piping type)



AJ type (with quick fittings)
(base piping type)



Model

CS-EA10
Standard type

CS-EA10L
Low current type

CS-EA10S
Quick response type

Valve specification

F1, **A1**: 2-port normally closed (NC)

F2, **A2**: 2-port normally open (NO)

F3, **A3**: 3-port normally closed (NC)

F4, **A4**: 3-port normally open (NO)

F5, **A5**: 5-port 2-position, single solenoid

F6, **A6**: 5-port 2-position, double solenoid

Manual override

Blank: Non-locking type

-83: Locking protruding type

Wiring specification

S type plug connector
Lead wire 300mm [11.8in.]

L type plug connector
Lead wire 300mm [11.8in.]

S type plug connector
Lead wire 1000mm [39in.]

L type plug connector
Lead wire 1000mm [39in.]

S type plug connector
Lead wire 3000mm [118in.]

L type plug connector
Lead wire 3000mm [118in.]

S type plug connector
Without connector ass'y

L type plug connector
Without connector ass'y

Grommet type[Note3]
Lead wire 300mm [11.8in.]
(moisture proof specification)

Voltage

-D4
DC24V

-D5
DC12V[Note4]

Model	Number of units	Manifold Specification	Station	Model	Valve specification	Manual override	Wiring specification	Voltage
	Manifold model			Mounting valve model				
FE type manifold (direct piping type)	CS-EAM	2 . . . 20	FE	stn.1 . . . stn.□ Note1	CS-EA10 CS-EA10L CS-EA10S	F1 F2 F3 F4 F5 F6	Blank -83[Note2]	-PS -PS1 -PS3 -PSN -PL -PL1 -PL3 -PLN -GL[Note3]	-D4 -D5[Note4]
				CS-EABP-F (for block-off plate)					
A , AJ type manifolds (base piping type)			A AJ	stn.1 . . . stn.□ Note1	CS-EA10 CS-EA10L CS-EA10S	A1 A2 A3 A4 A5 A6	Blank -83[Note2]	-PS -PS1 -PS3 -PSN -PL -PL1 -PL3 -PLN -GL[Note3]	-D4 -D5[Note4]
				CS-EABP-A (for block-off plate)					

Notes: 1. The valve mounting location is from the left side of the manifold.
2. The locking protruding type manual override is not available in the quick response type **CS-EA10S**.
3. The grommet type is not available in the low current type **CS-EA10L** and quick response type **CS-EA10S**.
4. The DC12V specification is not available in the low current type **CS-EA10L** and quick response type **CS-EA10S**.

Block-off plate (block-off plate, gasket, and 2 mounting screws)

CS-EABP - □

Specification
FE : For FE type manifold
A : For A, AJ type manifolds

Connector-related

EAZ - □

Connector specification
P : Connector, lead wire length 300mm [11.8in.]
P1 : Connector, lead wire length 1000mm [39in.]
P3 : Connector, lead wire length 3000mm [118in.]
PN : Connector, without lead wire (contacts included)

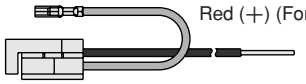
Common connector assembly

EAZ - □

Connector specification
PA : Positive common A type, connector, lead wire length 300mm [11.8in.]
PA1 : Positive common A type, connector, lead wire length 1000mm [39in.]
PA3 : Positive common A type, connector, lead wire length 3000mm [118in.]
PB : Positive common B type, connector, lead wire length 300mm [11.8in.]
PB1 : Positive common B type, connector, lead wire length 1000mm [39in.]
PB3 : Positive common B type, connector, lead wire length 3000mm [118in.]
PC : Positive common C type, connector, lead wire length 300mm [11.8in.]
PC1 : Positive common C type, connector, lead wire length 1000mm [39in.]
PC3 : Positive common C type, connector, lead wire length 3000mm [118in.]
CPN : Positive common, connector, without lead wire (short bar and contacts included)

A type: EAZ-PA□※

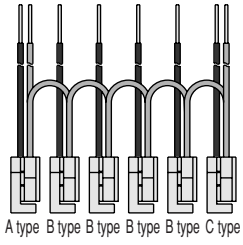
B type: EAZ-PB□※



C type: EAZ-PC□※

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

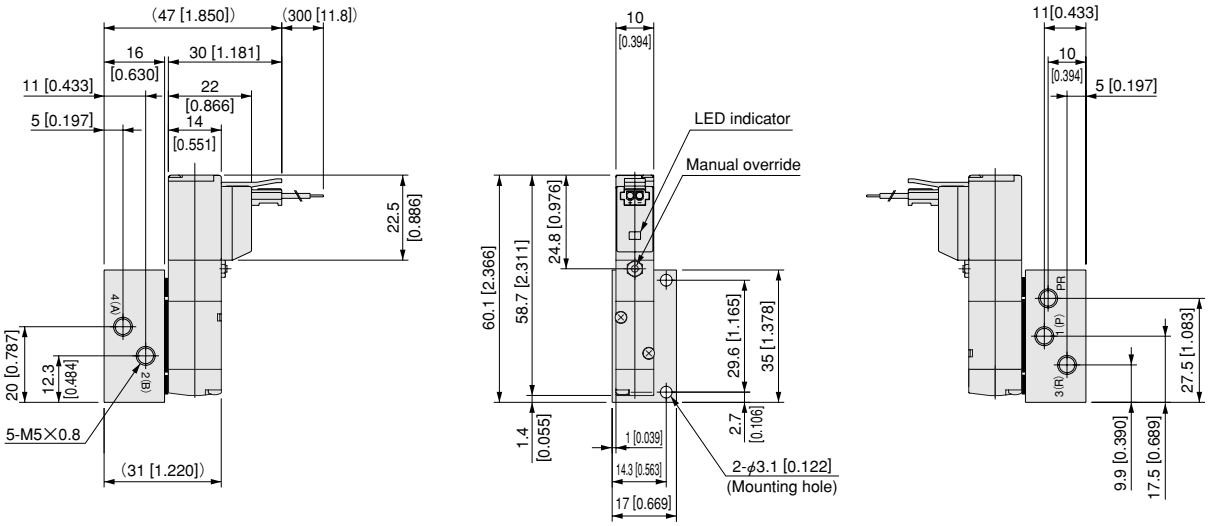
Application example



Dimensions of EA Series Solenoid Valve mm [in.]

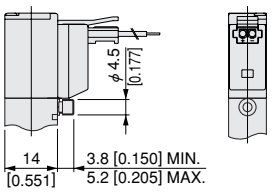
5-port, single solenoid (with sub-base)

CS-EA10□A5-25-PL

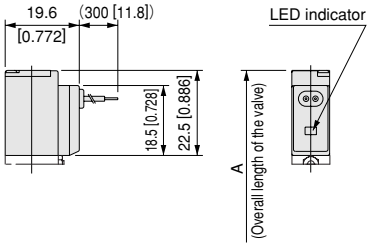


Options

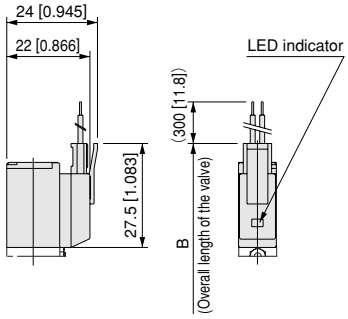
●Locking protruding type manual override: **-83**



●Grommet: **-GL**



●S type plug connector: **-PS**

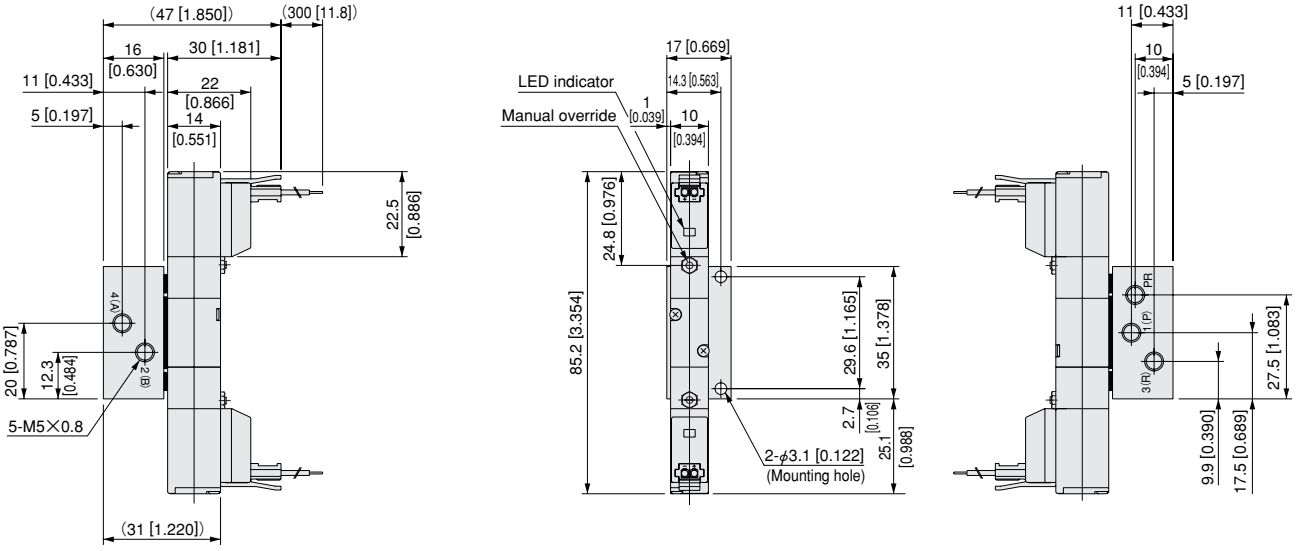


Model / Code	A	B	Remark
CS-EA10F1～CS-EA10F5, CS-EA10A1～CS-EA10A5	58.7 [2.311]	63.7 [2.508]	Overall length to the end of the valve
CS-EA10LF1～CS-EA10LF5, CS-EA10LA1～CS-EA10LA5	—	63.7 [2.508]	
CS-EA10SF1～CS-EA10SF5, CS-EA10SA1～CS-EA10SA5	—	63.7 [2.508]	

Dimensions of EA Series Solenoid Valve mm [in.]

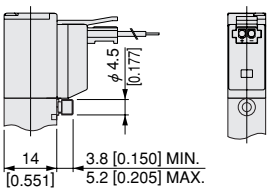
5-port, double solenoid (with sub-base)

CS-EA10□A6-25-PL

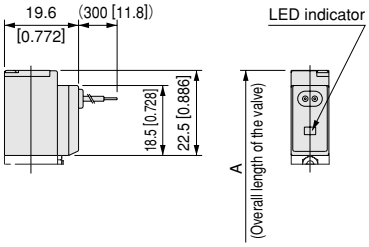


Options

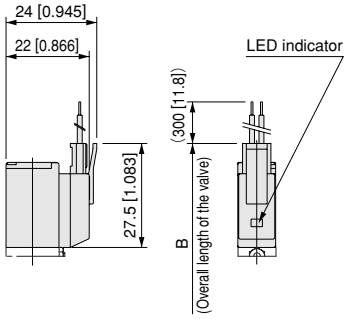
●Locking protruding type manual override: **-83**



●Grommet: **-GL**



●S type plug connector: **-PS**

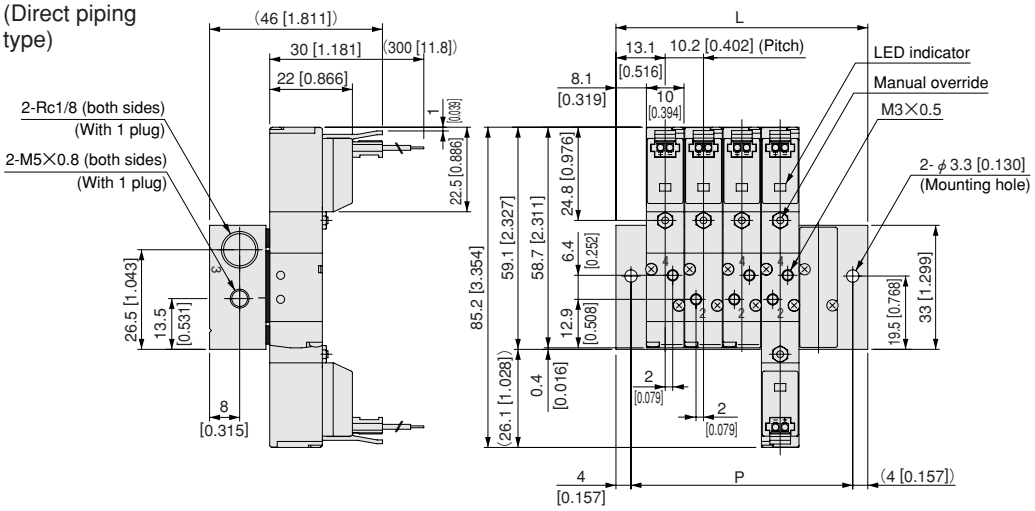


Model / Code	A	B	Remark
CS-EA10F6, CS-EA10A6	85.2 [3.354]	95.2 [3.748]	Overall length to the end of the solenoid on the opposite side
CS-EA10LF6, CS-EA10LA6	—	95.2 [3.748]	
CS-EA10SF6, CS-EA10SA6	—	95.2 [3.748]	

Manifold for combination mounting of 2, 3, 5-port valves

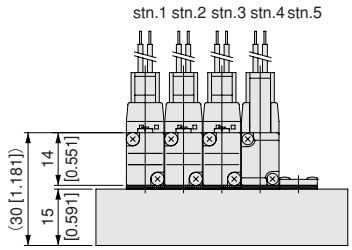
CS-EAM□FE

(Direct piping type)



〔Installation example〕

CS-EAM5FE
stn.1 CS-EA10F3-PL-D4
stn.2 CS-EA10F4-PL-D4
stn.3 CS-EA10F5-PL-D4
stn.4 CS-EA10F6-PL-D4
stn.5 CS-EABP-F

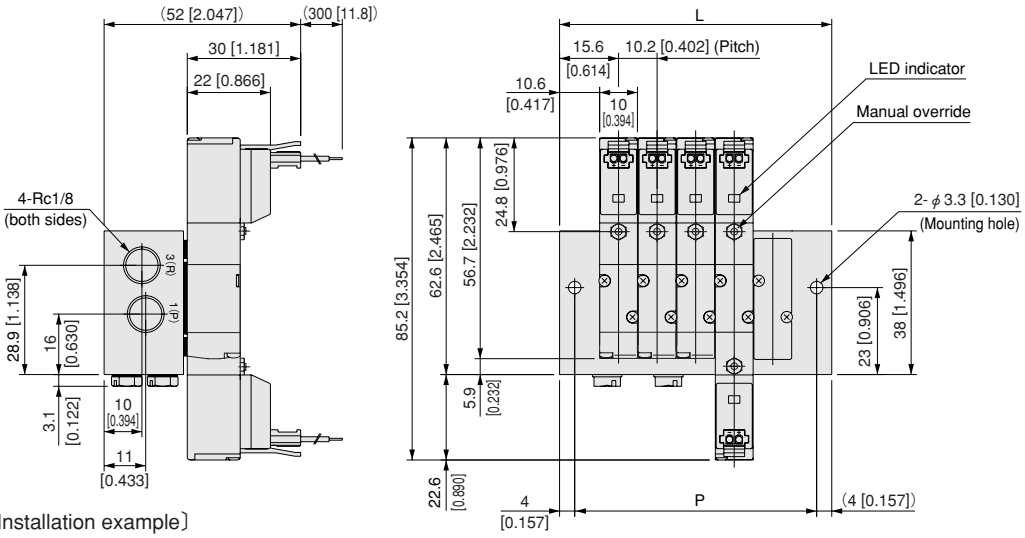


Unit dimensions

No. of units	L	P
2	36.4 [1.433]	28.4 [1.118]
3	46.6 [1.835]	38.6 [1.520]
4	56.8 [2.236]	48.8 [1.921]
5	67.0 [2.638]	59.0 [2.323]
6	77.2 [3.039]	69.2 [2.724]
7	87.4 [3.441]	79.4 [3.126]
8	97.6 [3.843]	89.6 [3.528]
9	107.8 [4.244]	99.8 [3.929]
10	118.0 [4.646]	110.0 [4.331]
11	128.2 [5.047]	120.2 [4.732]
12	138.4 [5.449]	130.4 [5.134]
13	148.6 [5.850]	140.6 [5.535]
14	158.8 [6.252]	150.8 [5.937]
15	169.0 [6.654]	161.0 [6.339]
16	179.2 [7.055]	171.2 [6.740]
17	189.4 [7.457]	181.4 [7.142]
18	199.6 [7.858]	191.6 [7.543]
19	209.8 [8.260]	201.8 [7.945]
20	220.0 [8.661]	212.0 [8.346]

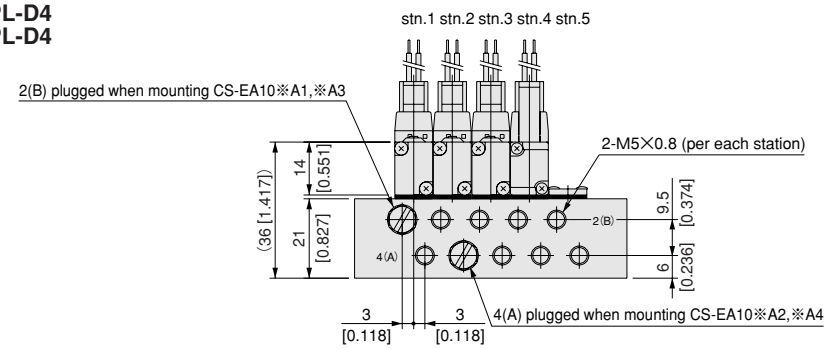
CS-EAM□A

(Base piping type)



〔Installation example〕

CS-EAM5A
stn.1 CS-EA10A3-PL-D4
stn.2 CS-EA10A4-PL-D4
stn.3 CS-EA10A5-PL-D4
stn.4 CS-EA10A6-PL-D4
stn.5 CS-EABP-A



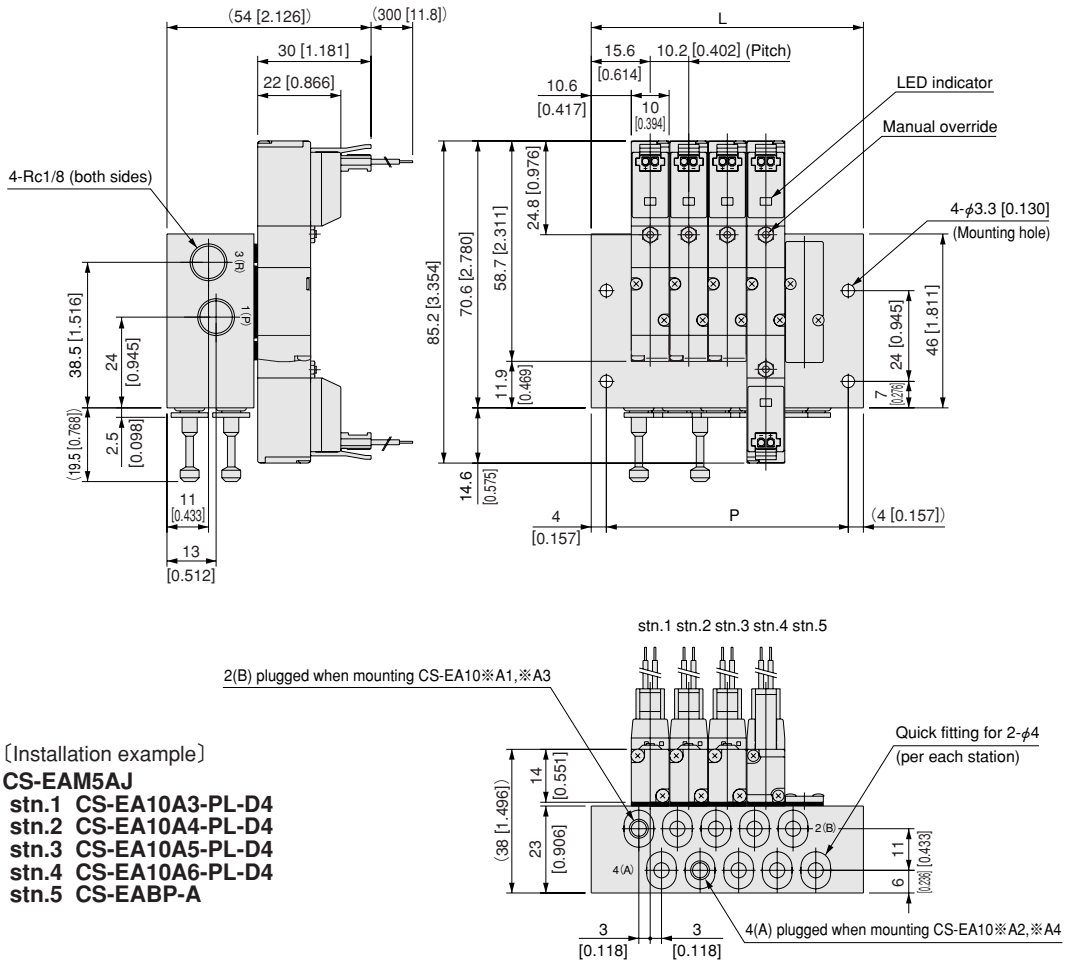
Unit dimensions

No. of units	L	P
2	41.4 [1.630]	33.4 [1.315]
3	51.6 [2.031]	43.6 [1.717]
4	61.8 [2.433]	53.8 [2.118]
5	72.0 [2.835]	64.0 [2.520]
6	82.2 [3.236]	74.2 [2.921]
7	92.4 [3.638]	84.4 [3.323]
8	102.6 [4.039]	94.6 [3.724]
9	112.8 [4.441]	104.8 [4.126]
10	123.0 [4.843]	115.0 [4.528]
11	133.2 [5.244]	125.2 [4.929]
12	143.4 [5.646]	135.4 [5.331]
13	153.6 [6.047]	145.6 [5.732]
14	163.8 [6.449]	155.8 [6.134]
15	174.0 [6.850]	166.0 [6.535]
16	184.2 [7.252]	176.2 [6.937]
17	194.4 [7.654]	186.4 [7.339]
18	204.6 [8.055]	196.6 [7.740]
19	214.8 [8.457]	206.8 [8.142]
20	225.0 [8.858]	217.0 [8.543]

Manifold for combination mounting of 2, 3, 5-port valves

CS-EAM□AJ

(Base piping type with quick fittings)



〔Installation example〕

CS-EAM5AJ

stn.1 CS-EA10A3-PL-D4
stn.2 CS-EA10A4-PL-D4
stn.3 CS-EA10A5-PL-D4
stn.4 CS-EA10A6-PL-D4
stn.5 CS-EABP-A

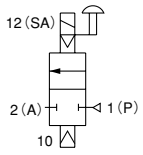
Unit dimensions

No. of units	L	P
2	41.4 [1.630]	33.4 [1.315]
3	51.6 [2.031]	43.6 [1.717]
4	61.8 [2.433]	53.8 [2.118]
5	72.0 [2.835]	64.0 [2.520]
6	82.2 [3.236]	74.2 [2.921]
7	92.4 [3.638]	84.4 [3.323]
8	102.6 [4.039]	94.6 [3.724]
9	112.8 [4.441]	104.8 [4.126]
10	123.0 [4.843]	115.0 [4.528]
11	133.2 [5.244]	125.2 [4.929]
12	143.4 [5.646]	135.4 [5.331]
13	153.6 [6.047]	145.6 [5.732]
14	163.8 [6.449]	155.8 [6.134]
15	174.0 [6.850]	166.0 [6.535]
16	184.2 [7.252]	176.2 [6.937]
17	194.4 [7.654]	186.4 [7.339]
18	204.6 [8.055]	196.6 [7.740]
19	214.8 [8.457]	206.8 [8.142]
20	225.0 [8.858]	217.0 [8.543]

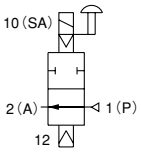
SOLENOID VALVES
EB SERIES

Symbols

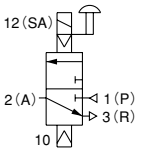
Single solenoid
2-port Normally closed (NC)



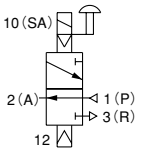
Single solenoid
2-port Normally open (NO)



Single solenoid
3-port Normally closed (NC)



Single solenoid
3-port Normally open (NO)



Specifications

Basic Models and Functions

Item \ Basic model		
	For direct piping, FE type manifold	**CS-EB10□F1** **CS-EB10□F2** **CS-EB10□F3** **CS-EB10□F4**
	For base piping, A, AJ type manifolds	**CS-EB10□A1** **CS-EB10□A2** **CS-EB10□A3** **CS-EB10□A4**
Number of positions		2 positions
Number of ports		2, 3 ports
Valve function		Single solenoid NC, NO

Remark: For the optional specifications and order codes, see p.167.

Port Size

Specification \ Port		2(A)	1(P)	3(R)	PR
Single unit	Direct piping	M3×0.5	M3×0.5	M3×0.5	——
	Base piping (with sub-base)	M5×0.8	M5×0.8	M5×0.8	M5×0.8
Manifold	FE type	M3×0.5	M5×0.8	Rc1/8	——
	A type	M5×0.8	Rc1/8	Rc1/8	Collected at 3(R) port
	AJ type	Quick fitting for ϕ4	Rc1/8	Rc1/8	

Specifications

Item \ Basic model		
	For direct piping, FE type manifold	**CS-EB10□F1** **CS-EB10□F2** **CS-EB10□F3** **CS-EB10□F4**
	For base piping, A, AJ type manifolds	**CS-EB10□A1** **CS-EB10□A2** **CS-EB10□A3** **CS-EB10□A4**
Media		Air
Operation type		Internal pilot type
Flow rate characteristics	Sonic conductance C dm³/(s・bar)	Base piping (A, AJ types): 0.26
	Effective area S〔Cv〕 mm²	Direct piping (FE type): 1.3〔0.07〕
Port size[Note 1]		M3×0.5
Lubrication		Not required
Operating pressure range	MPa [psi.]	0.2～0.7 [29～102]
Proof pressure	MPa [psi.]	1.05 [152]
Response time[Note 2] ON/OFF ms	Standard type	10/20 or below
	Low current type (L)	10/50 or below
	Quick response type (S)	6/7 or below
Maximum operating frequency Hz	Standard type	5
	Low current type (L)	2
	Quick response type (S)	10
Operating temperature range (atmosphere and media)	°C [°F]	5～50 [41～122]
Shock resistance	m/s² {G}	1373.0 {140} (Axial direction 294.2 {30})
Mounting direction		Any

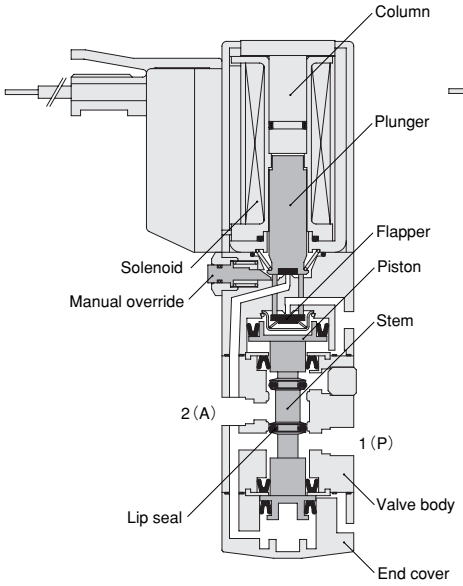
Notes: 1. For details, see the port size on p.164.
2. Values when air pressure is 0.5MPa [73psi.].

Solenoid Specifications

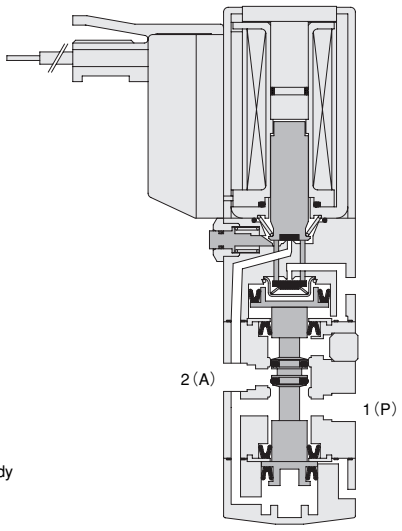
Item \ Rated voltage			DC12V (Standard type)	DC24V (Standard type)	DC24V (Low current type)	DC24V (Quick response type)
Operating voltage range		V	10.8～13.2 (12±10%)	21.6～26.4 (24±10%)	21.6～26.4 (24±10%)	21.6～26.4 (24±10%)
Standard type	Current (when rated voltage is applied)	mA (r.m.s)	46	23	—	—
	Power consumption	W	0.55	0.55	—	—
Low current type Quick response type	Current (when rated voltage is applied)	Starting mA	—	—	23	125
		Holding mA	—	—	6.3	46
	Power consumption	Starting W	—	—	0.55	3
		Holding W	—	—	0.15	1.1
	Start-up time (standard time)	ms	—	—	200 or below	30 or below
Allowable leakage current		mA	2	1	0.5	4
Insulation resistance		MΩ	Over 100 (value at DC500V megger)			
Color of LED indicator			Red			
Surge suppression (as standard)			Flywheel diode			

2-port

CS-EB10F1
De-energized



CS-EB10F2
De-energized

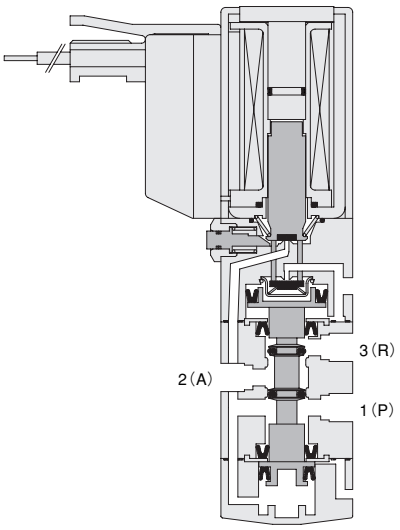


Major Parts and Materials

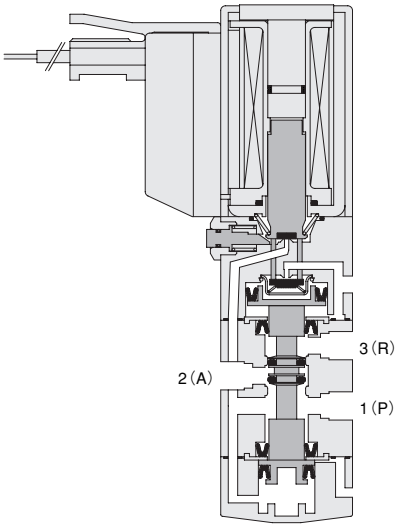
Parts		Materials
Valve	Body	Aluminum alloy (anodized)
	Stem	
	Lip seal	Synthetic rubber
	Flapper	
	Mounting base	Mild steel (zinc plated)
	Sub-base	Aluminum alloy (anodized)
	Plunger	Magnetic stainless steel
	Column	
	End cover	Plastic
Manifold	Body	Aluminum alloy (anodized)
	Block-off plate	Mild steel (nickel plated)
	Seal	Synthetic rubber

3-port

CS-EB10F3
De-energized



CS-EB10F4
De-energized



EB Series Single Valve Unit for Manifold/Sub-base Order Codes

■ Model

CS-EB10
Standard type

CS-EB10L
Low current type

CS-EB10S
Quick response type

■ Valve specification

F1, **A1**: 2-port normally closed (NC)

F2, **A2**: 2-port normally open (NO)

F3, **A3**: 3-port normally closed (NC)

F4, **A4**: 3-port normally open (NO)

■ Sub-base

Without sub-base

With sub-base

■ Manual override

Blank: Non-locking type

-83: Locking protruding type

■ Wiring specification

S type plug connector
Lead wire 300mm [11.8in.]

L type plug connector
Lead wire 300mm [11.8in.]

S type plug connector
Lead wire 1000mm [39in.]

L type plug connector
Lead wire 1000mm [39in.]

S type plug connector
Lead wire 3000mm [118in.]

L type plug connector
Lead wire 3000mm [118in.]

S type plug connector
Without connector ass'y

L type plug connector
Without connector ass'y

Grommet type[Note2]
Lead wire 300mm [11.8in.]
(moisture proof specification)

■ Voltage

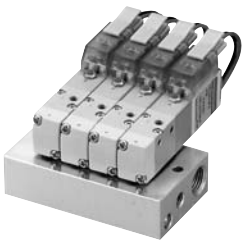
-D4
DC24V

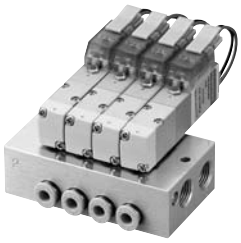
-D5
DC12V[Note3]

	Model	Valve specification	Sub-base	Manual override	Wiring specification	Voltage
Direct piping	**CS-EB10** **CS-EB10L** **CS-EB10S**	**F1** **F2** **F3** **F4**		**Blank** **-83**[Note1]	**-PS** **-PS1** **-PS3** **-PSN** **-PL** **-PL1** **-PL3** **-PLN** **-GL**[Note2]	**-D4** **-D5**[Note3]
Base piping	**CS-EB10** **CS-EB10L** **CS-EB10S**	**A1** **A2** **A3** **A4**	**Blank** **-25**	**Blank** **-83**[Note1]	**-PS** **-PS1** **-PS3** **-PSN** **-PL** **-PL1** **-PL3** **-PLN** **-GL**[Note2]	**-D4** **-D5**[Note3]

Notes: 1. The locking protruding type manual override is not available in the quick response type **CS-EB10S**.
2. The grommet type is not available in the low current type **CS-EB10L** and quick response type **CS-EB10S**.
3. The DC12V specification is not available in the low current type **CS-EB10L** and quick response type **CS-EB10S**.

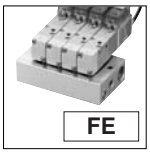
EB Series Manifold Order Codes



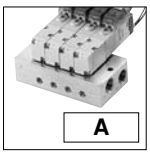


Manifold specification

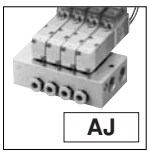
FE type (direct piping type)



A type (base piping type)



AJ type (with quick fittings)
(base piping type)



Model

CS-EB10
Standard type

CS-EB10L
Low current type

CS-EB10S
Quick response type

Valve specification

F1, **A1**: 2-port normally closed (NC)

F2, **A2**: 2-port normally open (NO)

F3, **A3**: 3-port normally closed (NC)

F4, **A4**: 3-port normally open (NO)

Manual override

Blank: Non-locking type

-83: Locking protruding type

Wiring specification

S type plug connector
Lead wire 300mm [11.8in.]

L type plug connector
Lead wire 300mm [11.8in.]

S type plug connector
Lead wire 1000mm [39in.]

L type plug connector
Lead wire 1000mm [39in.]

S type plug connector
Lead wire 3000mm [118in.]

L type plug connector
Lead wire 3000mm [118in.]

S type plug connector
Without connector ass'y

L type plug connector
Without connector ass'y

Grommet type[Note3]
Lead wire 300mm [11.8in.]
(moisture proof specification)

Voltage

-D4
DC24V

-D5
DC12V[Note4]

Model	Number of units	Manifold specification	Station	Model	Valve specification	Manual override	Wiring specification	Voltage
	Manifold model			Mounting valve model				
FE type manifold (direct piping type)	CS-EBM	2 . . . 20	FE	stn.1 . . . stn.□ Note1	CS-EB10 CS-EB10L CS-EB10S	F1 F2 F3 F4	Blank -83[Note2]	-PS -PS1 -PS3 -PSN -PL -PL1 -PL3 -PLN -GL[Note3]	-D4 -D5[Note4]
				CS-EBBP-F (for block-off plate)					
A , AJ type manifolds (base piping type)			A AJ	stn.1 . . . stn.□ Note1	CS-EB10 CS-EB10L CS-EB10S	A1 A2 A3 A4	Blank -83[Note2]	-PS -PS1 -PS3 -PSN -PL -PL1 -PL3 -PLN -GL[Note3]	-D4 -D5[Note4]
				CS-EBBP-A (for block-off plate)					

Notes: 1. The valve mounting location is from the left side of the manifold.
2. The locking protruding type manual override is not available in the quick response type **CS-EB10S**.
3. The grommet type is not available in the low current type **CS-EB10L** and quick response type **CS-EB10S**.
4. The DC12V specification is not available in the low current type **CS-EB10L** and quick response type **CS-EB10S**.

Block-off plate (block-off plate, gasket, and 2 mounting screws)

CS-EBBP - □

Specification
FE : For FE type manifold
A : For A, AJ type manifolds

Connector-related

EAZ - □

Connector specification
P : Connector, lead wire length 300mm [11.8in.]
P1 : Connector, lead wire length 1000mm [39in.]
P3 : Connector, lead wire length 3000mm [118in.]
PN : Connector, without lead wire (contacts included)

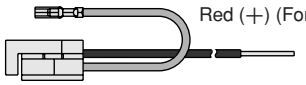
Common connector assembly

EAZ - □

Connector specification
PA : Positive common A type, connector, lead wire length 300mm [11.8in.]
PA1 : Positive common A type, connector, lead wire length 1000mm [39in.]
PA3 : Positive common A type, connector, lead wire length 3000mm [118in.]
PB : Positive common B type, connector, lead wire length 300mm [11.8in.]
PB1 : Positive common B type, connector, lead wire length 1000mm [39in.]
PB3 : Positive common B type, connector, lead wire length 3000mm [118in.]
PC : Positive common C type, connector, lead wire length 300mm [11.8in.]
PC1 : Positive common C type, connector, lead wire length 1000mm [39in.]
PC3 : Positive common C type, connector, lead wire length 3000mm [118in.]
CPN : Positive common, connector, without lead wire (short bar and contacts included)

A type: EAZ-PA□※

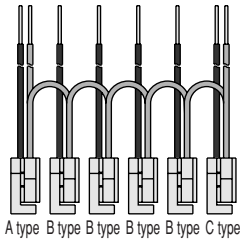
B type: EAZ-PB□※



C type: EAZ-PC□※

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

Application example



Dimensions of EB Series Solenoid Valve mm [in.]

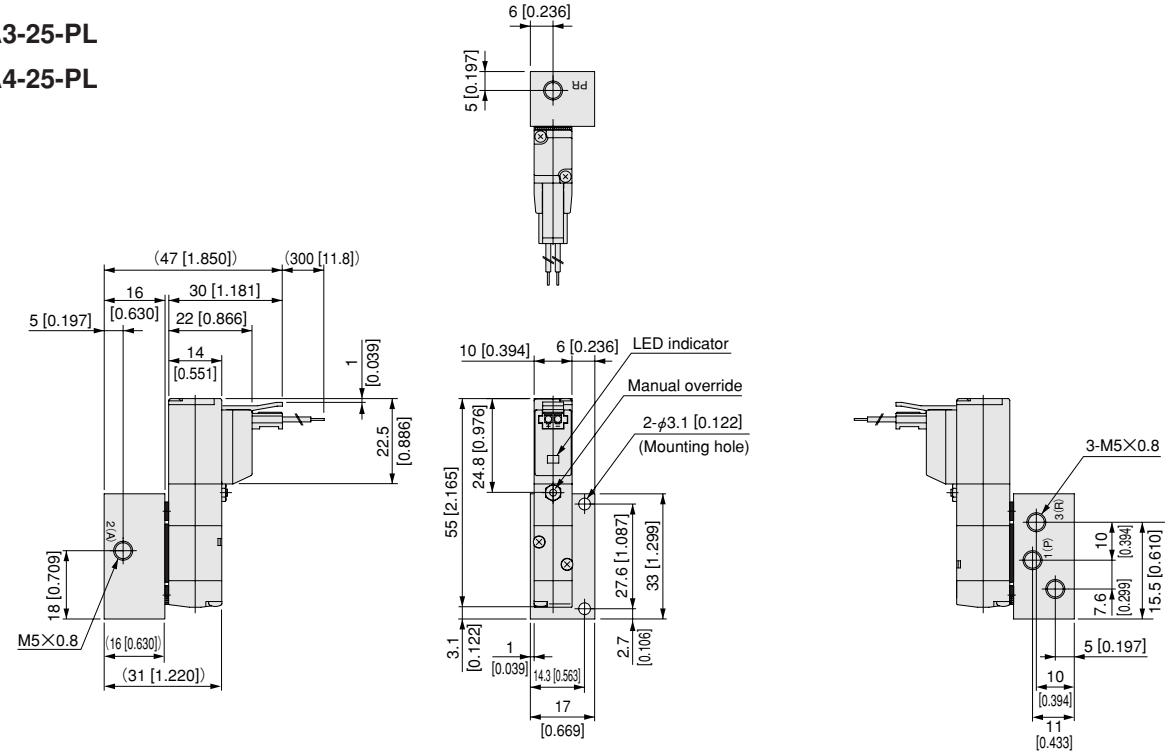
2, 3-port, single solenoid (with sub-base)

CS-EB10□A1-25-PL

CS-EB10□A2-25-PL

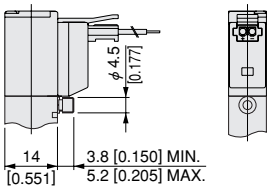
CS-EB10□A3-25-PL

CS-EB10□A4-25-PL

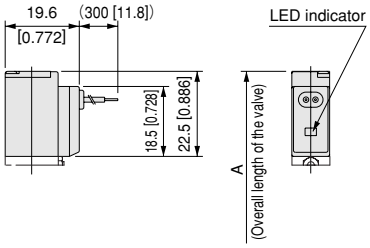


Options

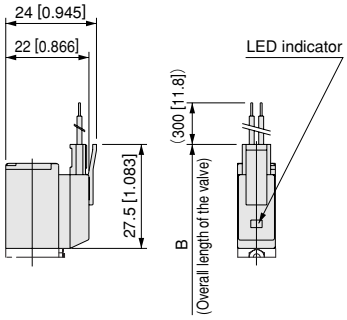
●Locking protruding type manual override: **-83**



●Grommet: **-GL**



●S type plug connector: **-PS**

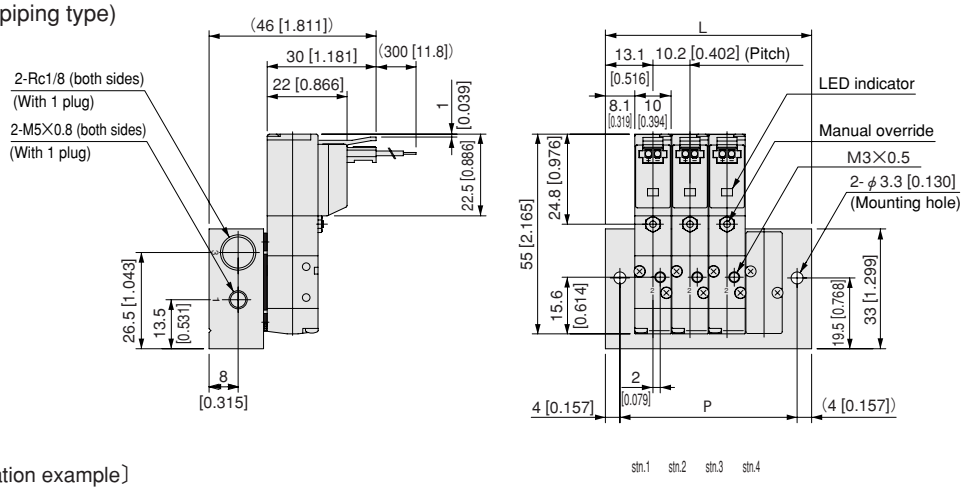


Model / Code	A	B	Remark
CS-EB10F1～CS-EB10F4,CS-EB10A1～CS-EB10A4	55 [2.165]	60 [2.362]	Overall length to the end of the valve
CS-EB10LF1～CS-EB10LF4,CS-EB10LA1～CS-EB10LA4	—	60 [2.362]	
CS-EB10SF1～CS-EB10SF4,CS-EB10SA1～CS-EB10SA4	—	60 [2.362]	

For 2, 3-port

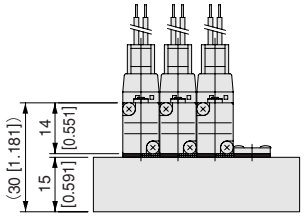
CS-EBM□FE

(Direct piping type)



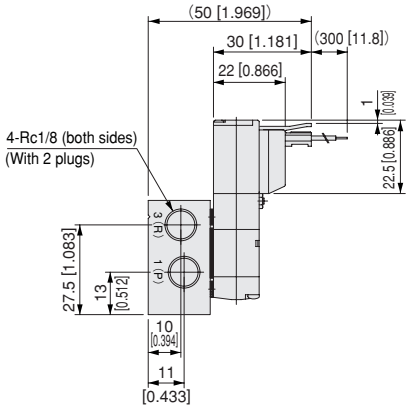
〔Installation example〕

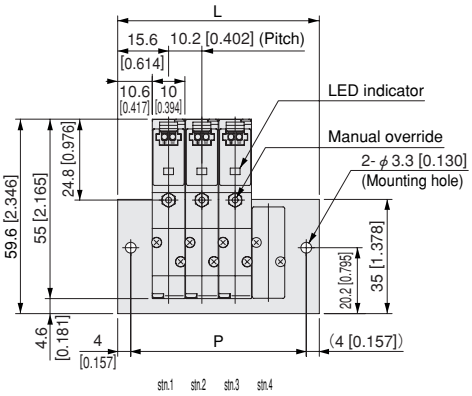
CS-EBM4FE
stn.1 CS-EB10F1-PL-D4
stn.2 CS-EB10F3-PL-D4
stn.3 CS-EB10F4-PL-D4
stn.4 CS-EBBP-F

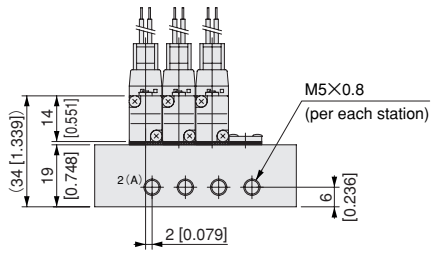


CS-EBM□A

(Base piping type)







〔Installation example〕

CS-EBM4A
stn.1 CS-EB10A1-PL-D4
stn.2 CS-EB10A3-PL-D4
stn.3 CS-EB10A4-PL-D4
stn.4 CS-EBBP-A

Unit dimensions

No. of units	L	P
2	36.4 [1.433]	28.4 [1.118]
3	46.6 [1.835]	38.6 [1.520]
4	56.8 [2.236]	48.8 [1.921]
5	67.0 [2.638]	59.0 [2.323]
6	77.2 [3.039]	69.2 [2.724]
7	87.4 [3.441]	79.4 [3.126]
8	97.6 [3.843]	89.6 [3.528]
9	107.8 [4.244]	99.8 [3.929]
10	118.0 [4.646]	110.0 [4.331]
11	128.2 [5.047]	120.2 [4.732]
12	138.4 [5.449]	130.4 [5.134]
13	148.6 [5.850]	140.6 [5.535]
14	158.8 [6.252]	150.8 [5.937]
15	169.0 [6.654]	161.0 [6.339]
16	179.2 [7.055]	171.2 [6.740]
17	189.4 [7.457]	181.4 [7.142]
18	199.6 [7.858]	191.6 [7.543]
19	209.8 [8.260]	201.8 [7.945]
20	220.0 [8.661]	212.0 [8.346]

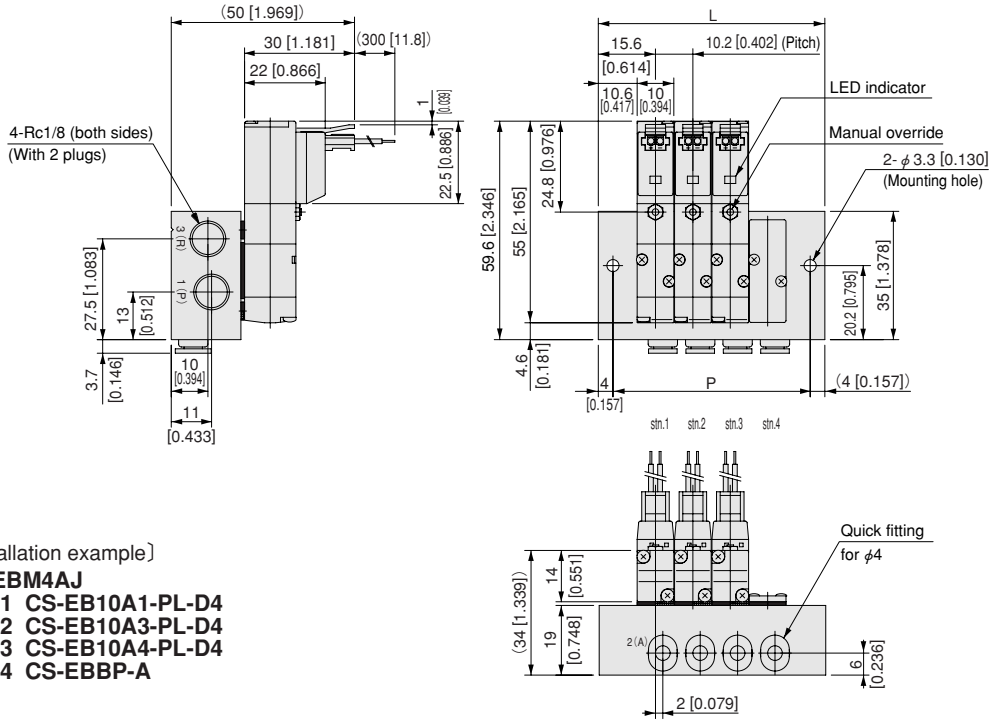
Unit dimensions

No. of units	L	P
2	41.4 [1.630]	33.4 [1.315]
3	51.6 [2.031]	43.6 [1.717]
4	61.8 [2.433]	53.8 [2.118]
5	72.0 [2.835]	64.0 [2.520]
6	82.2 [3.236]	74.2 [2.921]
7	92.4 [3.638]	84.4 [3.323]
8	102.6 [4.039]	94.6 [3.724]
9	112.8 [4.441]	104.8 [4.126]
10	123.0 [4.843]	115.0 [4.528]
11	133.2 [5.244]	125.2 [4.929]
12	143.4 [5.646]	135.4 [5.331]
13	153.6 [6.047]	145.6 [5.732]
14	163.8 [6.449]	155.8 [6.134]
15	174.0 [6.850]	166.0 [6.535]
16	184.2 [7.252]	176.2 [6.937]
17	194.4 [7.654]	186.4 [7.339]
18	204.6 [8.055]	196.6 [7.740]
19	214.8 [8.457]	206.8 [8.142]
20	225.0 [8.858]	217.0 [8.543]

For 2, 3-port

CS-EBM□AJ

(Base piping type with quick fittings)



〔Installation example〕

CS-EBM4AJ
stn.1 CS-EB10A1-PL-D4
stn.2 CS-EB10A3-PL-D4
stn.3 CS-EB10A4-PL-D4
stn.4 CS-EBBP-A

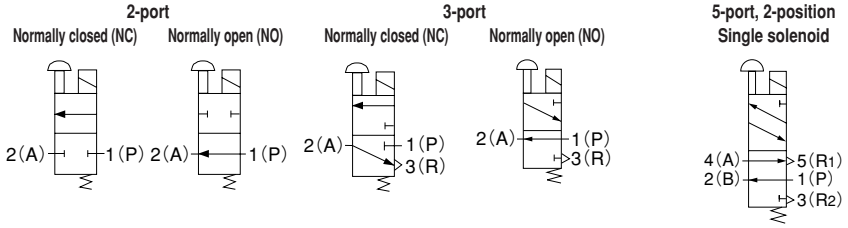
Unit dimensions

No. of units	L	P
2	41.4 [1.630]	33.4 [1.315]
3	51.6 [2.031]	43.6 [1.717]
4	61.8 [2.433]	53.8 [2.118]
5	72.0 [2.835]	64.0 [2.520]
6	82.2 [3.236]	74.2 [2.921]
7	92.4 [3.638]	84.4 [3.323]
8	102.6 [4.039]	94.6 [3.724]
9	112.8 [4.441]	104.8 [4.126]
10	123.0 [4.843]	115.0 [4.528]
11	133.2 [5.244]	125.2 [4.929]
12	143.4 [5.646]	135.4 [5.331]
13	153.6 [6.047]	145.6 [5.732]
14	163.8 [6.449]	155.8 [6.134]
15	174.0 [6.850]	166.0 [6.535]
16	184.2 [7.252]	176.2 [6.937]
17	194.4 [7.654]	186.4 [7.339]
18	204.6 [8.055]	196.6 [7.740]
19	214.8 [8.457]	206.8 [8.142]
20	225.0 [8.858]	217.0 [8.543]

KOGANEI CLEAN SYSTEM

SOLENOID VALVES
050 SERIES

Symbols



Specifications

Item \ Basic model		Standard type		Low current type	
	For direct piping SM type manifold	**CS-050E1**	**CS-050-4E1**	**CS-050LE1**	**CS-050-4LE1**
	For sub-base mounted unit	**CS-A050E1**	**CS-A050-4E1**	**CS-A050LE1**	**CS-A050-4LE1**
Number of positions		2 positions			
Number of ports		2, 3 ports	5 ports	2, 3 ports	5 ports
Valve function		Normally closed (NC, standard) or Normally open (NO, optional)	Single solenoid	Normally closed (NC, standard) or Normally open (NO, optional)	Single solenoid
Media		Air			
Operation type		Direct acting type			
Effective area〔Cv〕 mm²		1.5〔0.08〕	1.2〔0.07〕	1.5〔0.08〕	1.2〔0.07〕
Port size		M5×0.8			
Lubrication		Not required			
Operating pressure range MPa [psi.]		0～0.7 [0～102]			
Proof pressure MPa [psi.]		1.05 [152]			
Response time[Note] ms ON/OFF	DC24V	20/20 or below		30/30 or below	
	AC100V, AC200V	25/25 or below		——	
Maximum operating frequency Hz		5			
Operating temperature range (atmosphere and media) °C [°F]		0～50 [32～122]			
Shock resistance m/s² {G}	Lateral direction	1373.0 {140}			
	Axial direction	294.2 {30}			
Mounting direction		Any			

Note: Values when air pressure is 0.5MPa [73 psi.].

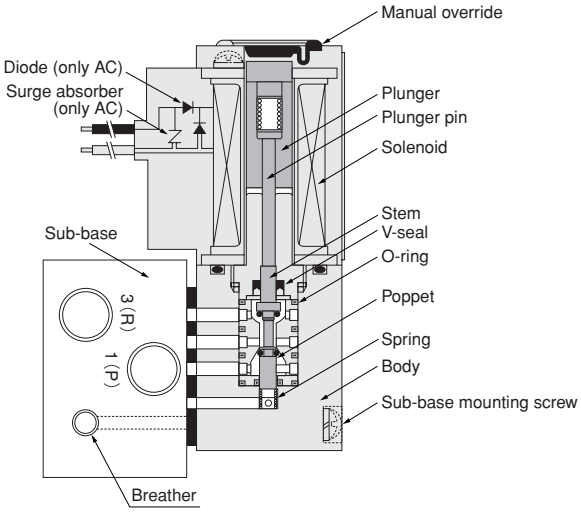
Solenoid Specifications

Item \ Rated voltage		Standard type					Low current type
		DC24V	**AC100V**		**AC200V**		**DC24V**
Type		DC type	Flywheel type				DC type
Operating voltage range V		21.6～26.4 (24 +10%)	90～110 (100 +10%)		180～220 (200 +10%)		21.6～26.4 (24 +10%)
Current[Note 1] (when rated voltage is applied)	Frequency Hz	—	50	60	50	60	——
	Energizing[Note 2] mA(r.m.s)	240 (5.8W) 〔252 (6.0W)〕	74 〔83〕	71 〔79〕	48 〔50〕	46 〔48〕	100 (2.4W) 〔112 (2.7W)〕
Maximum allowable leakage current mA		20	10		5		10
Insulation resistance MΩ		10					10
Wiring type and lead wire length	Standard	Grommet type: 300mm [11.8in.]					Grommet type: 300mm [11.8in.]
	Optional	With DIN connector					With DIN connector
Color of lead wire		Red 〔Red(+), Blue(−)〕[Note 1] Red(+), Black(−)[Note 3]	Yellow, Black		White, Black		Red 〔Red(+), Blue(−)〕[Note 1] Red(+), Black(−)[Note 3]
Color of LED indicator (optional)		Red	Yellow		Green		Red
Surge suppression	Standard	——	Flywheel diode				——
	Optional	Flywheel diode	——				Flywheel diode

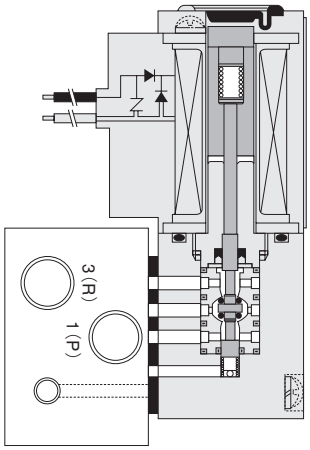
Notes: 1. Figures in brackets 〔 〕 are for solenoids with LED indicators.
2. Since the AC types have built-in flywheel diodes, the starting current value is virtually the same as the energizing current value.
3. For solenoids with surge suppression, and solenoids with surge suppression and LED indicators.

Inner Construction and Major Parts

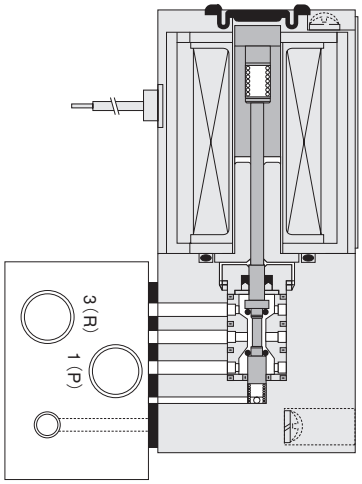
CS-A050E1-25



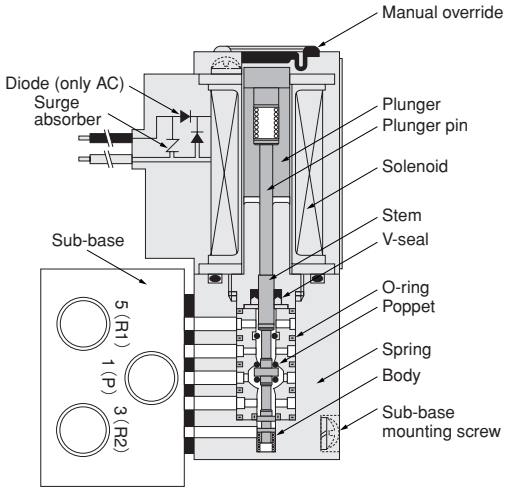
CS-A050E1-11-25



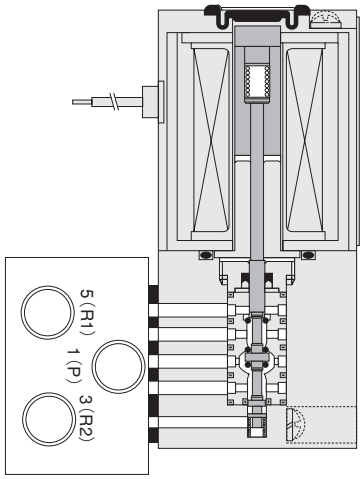
CS-A050LE1-25



CS-A050-4E1-25



CS-A050-4LE1-25



Major Parts Materials

Parts	Materials
Body	Aluminum alloy (anodized)
Sub-base	
Stem	Brass
Stem spring	Piano wire
Seal	Synthetic rubber (NBR)
Plunger	Stainless steel
Mounting screw	Mild steel (nickel plated)

Manifold Materials

Parts	Materials
Body	Aluminum alloy (anodized)
Block-off plate	Mild steel (nickel plated)
Seal	Synthetic rubber (NBR)
Mounting screw	Mild steel (nickel plated)

Order Codes

CS - A 050E1 – [ ] – [ ] – [ ] – [ ] – [ ] – [ ] – [ ] – [ ] – [ ]

Clean system 050 series valve basic model		Port size		Number of ports		Valve function		Sub-base	
		M5×0.8	・P, A, B Rc1/8 ・R M5×0.8	3-port	2-port	Normally closed (NC)	Normally open (NO)	Without sub-base	With sub-base
● For sub-base-mounted units (cannot be used for units without sub-base)	**CS - A050E1** 2-, 3-port	—— Dedicated for sub-base piping		**Blank**	**- 2**	**Blank**	**- 11**	**Blank**	**- 25** Sub-base piping type
	CS - A050-4E1 5-port			——		——			
	CS - A050LE1 2-, 3-port			**Blank**	**- 2**	**Blank**	**- 11**		
	CS - A050-4LE1 5-port			——		——			
● For manifold mounted units	**CS - 050E1** 2-, 3-port	**Blank**	**- 01**	**Blank**	**- 2**	**Blank**	**- 11**	—— Dedicated for manifold mounting	
	CS - 050-4E1 5-port	**Blank**	**- 01**	——		——			
	CS - 050LE1 2-, 3-port	**Blank**	**- 01**	**Blank**	**- 2**	**Blank**	**- 11**		
	CS - 050-4LE1 5-port	**Blank**	**- 01**	——		——			

Manifold Order Codes

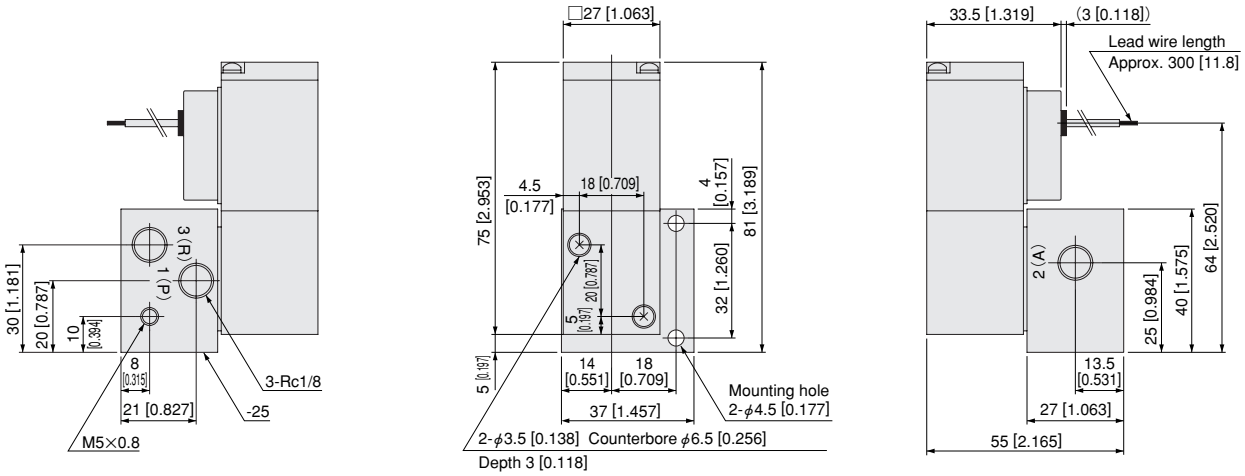
CS - SM [ ] [ ] [ ]

Clean system 050 series manifold basic model	Number of units	Station	Clean system mounting valve model
CS-SM	[2] : 2 units [3] : 3 units ⋮ [10] : 10 units	● Valve mounting position from left, as viewed from the front [Stn.1] : First [Stn.2] : Second ⋮ [Stn.10] : 10th	● For details of valve models, see the order codes listed above. ● Enter **CS-BP** when closing a station with a block-off plate without mounting a valve.

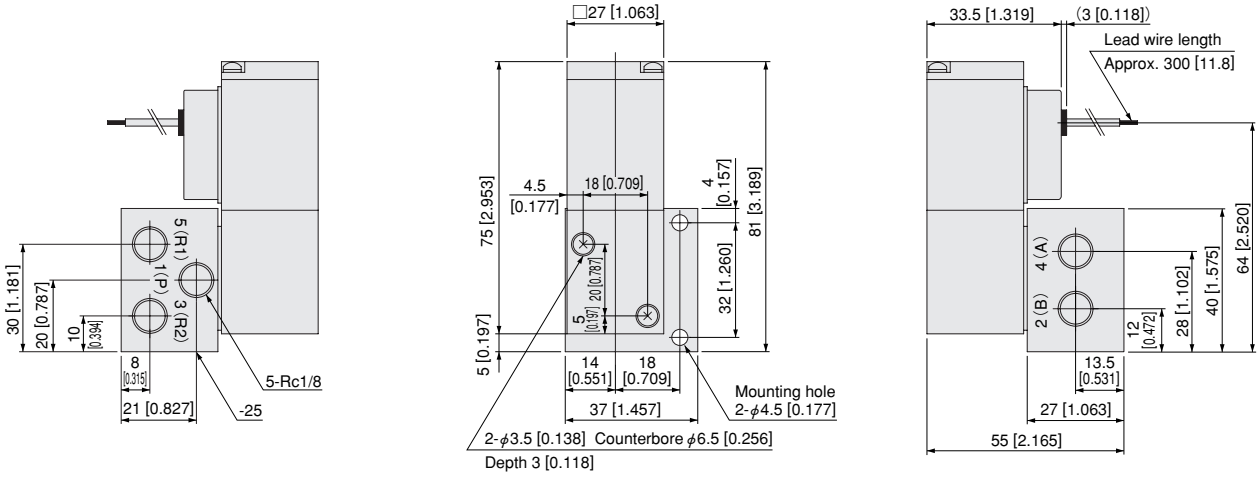
	Wiring type		LED indicator		Flywheel diode		Voltage
	Grommet type	DIN connector	Without LED indicator	With LED indicator Not available with DIN connector	Without flywheel diode	With flywheel diode	
	Blank	**- 39**	**Blank**	**- LF**	**Blank**	**- SR** For DC24V only. Equipped for AC100V and AC200V as standard.	**DC24V** **AC100V** **AC200V** For L type, only DC24V is available.
				- L			
	Blank	**- 39**	**Blank**	**- LF**			
				- L			

Dimensions of Solenoid Valve mm [in.]

●CS-A050E1-25

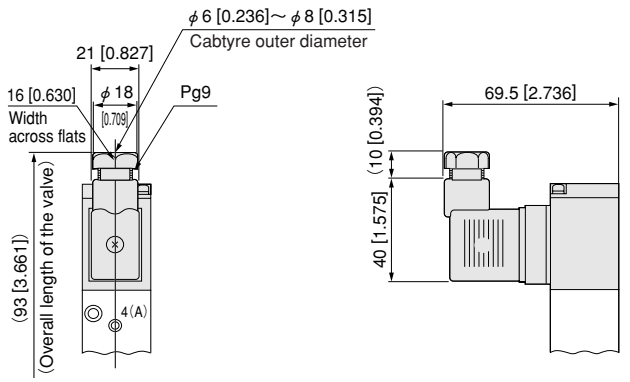


●CS-A050-4E1-25

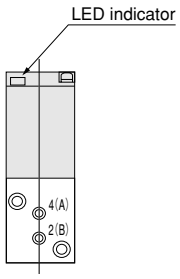


●Options

●Solenoid with DIN connector: **-39**
(Standard type)

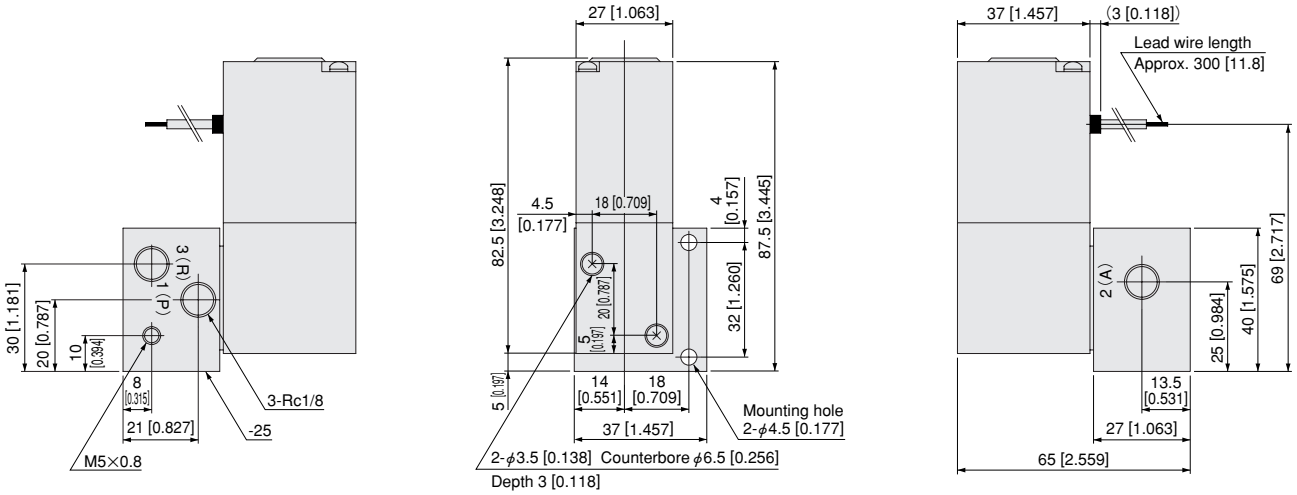


●Solenoid with LED indicator: **-LF**
(Standard type)

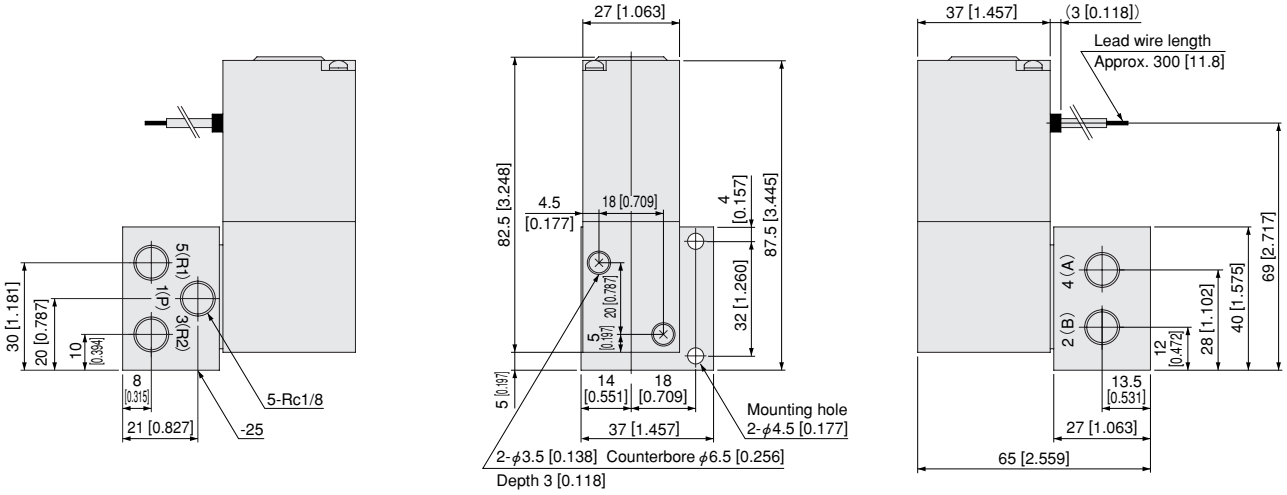


Dimensions of Solenoid Valve mm [in.]

●CS-A050LE1-25

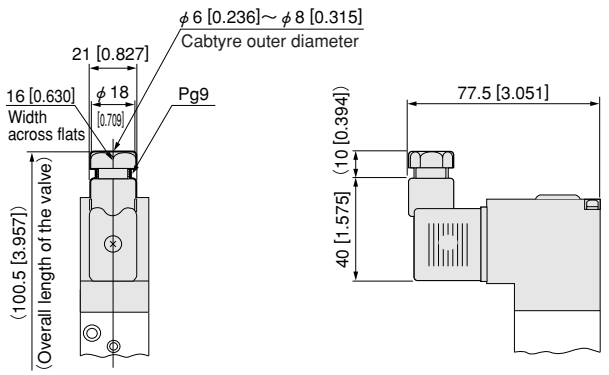


●CS-A050-4LE1-25

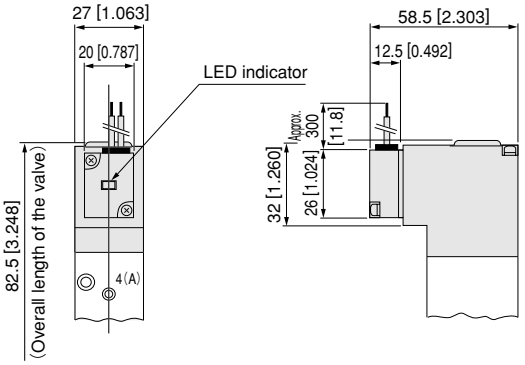


●Options

●Solenoid with DIN connector: **-39**
(Low current type)



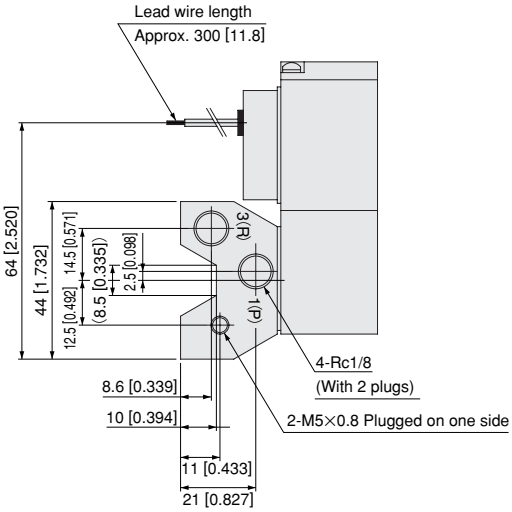
●Solenoid with LED indicator: **-L**
(Low current type)

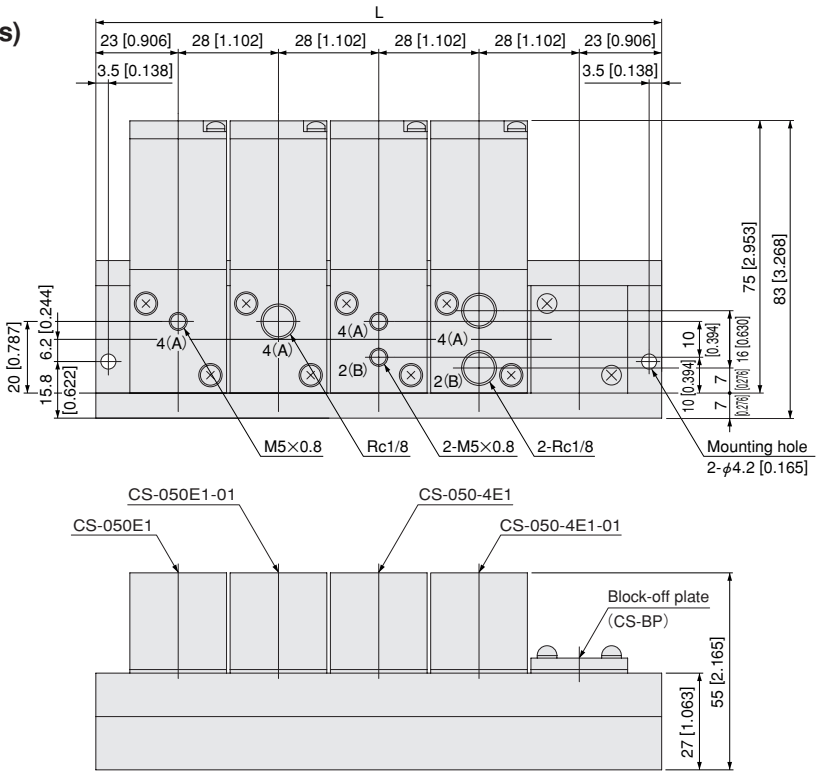


Dimensions of Manifold mm [in.]

●Standard type

CS-SM (Mounting solenoid valve CS-050 series)



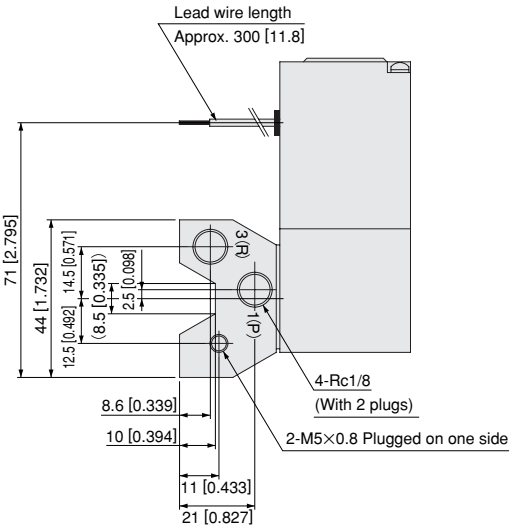


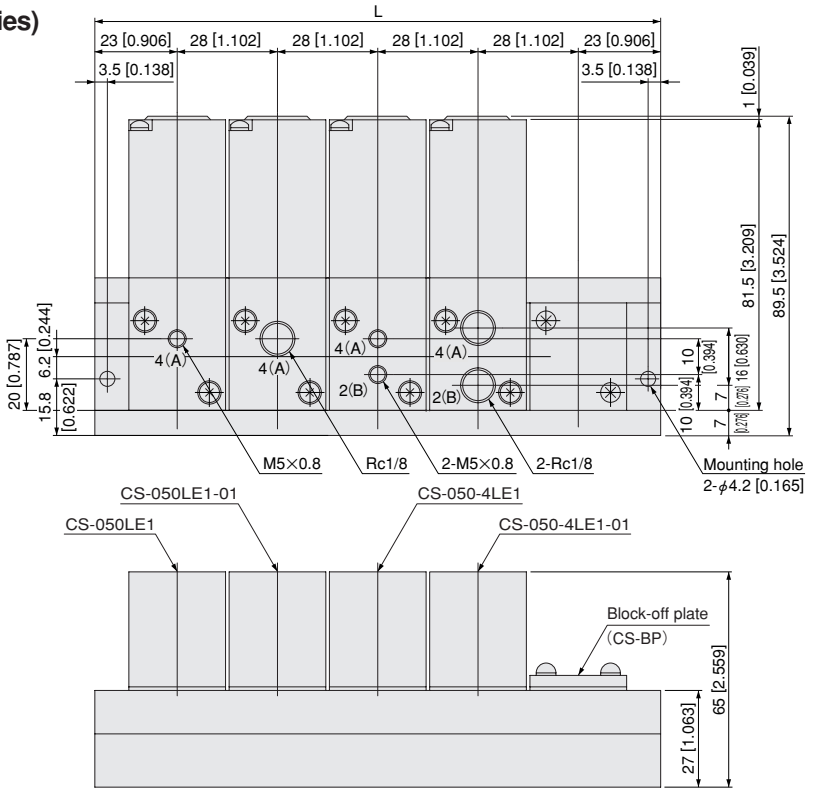
Unit dimensions

Model	L
CS-SM2	74 [2.913]
CS-SM3	102 [4.016]
CS-SM4	130 [5.118]
CS-SM5	158 [6.220]
CS-SM6	186 [7.323]
CS-SM7	214 [8.425]
CS-SM8	242 [9.528]
CS-SM9	270 [10.630]
CS-SM10	298 [11.732]

●Low current type

CS-SM (Mounting solenoid valve CS-050L series)





Unit dimensions

Model	L
CS-SM2	74 [2.913]
CS-SM3	102 [4.016]
CS-SM4	130 [5.118]
CS-SM5	158 [6.220]
CS-SM6	186 [7.323]
CS-SM7	214 [8.425]
CS-SM8	242 [9.528]
CS-SM9	270 [10.630]
CS-SM10	298 [11.732]

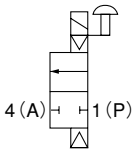
KOGANEI

CLEAN SYSTEM SOLENOID VALVES
JA SERIES

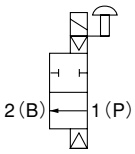
Symbols

2-port

Normally closed (NC)

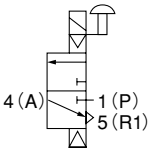


Normally open (NO)

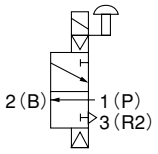


3-port

Normally closed (NC)

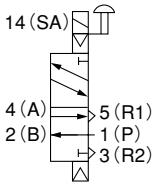


Normally open (NO)

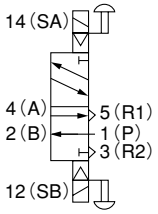


5-port, 2-position

Single solenoid

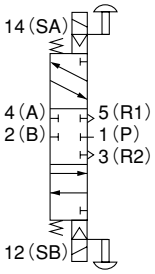


Double solenoid

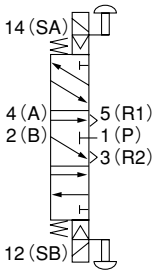


5-port, 3-position

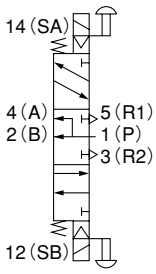
Closed center



Exhaust center

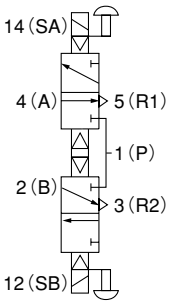


Pressure center

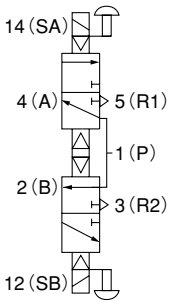


Tandem 3-port, 4-position

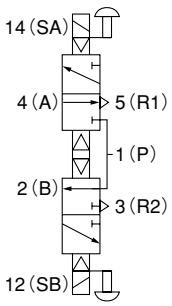
Normally closed (NC)
Normally closed (NC)



Normally open (NO)
Normally open (NO)



Normally closed (NC)
Normally open (NO)



Specifications

Basic Models and Functions

Item \ Basic model	CS-JA10□A1 CS-JA10□A2 CS-JA10□A3 CS-JA10□A4	CS-JA10□A5	CS-JA10□A6	CS-JA10□A7 CS-JA10□A8 CS-JA10□A9	CS-JA10□AA CS-JA10□AB CS-JA10□AC
Number of positions	2 positions			3 positions	4 positions
Number of ports	2, 3 ports	5 ports			Tandem 3 ports
Valve function	Single solenoid NC, NO	Single solenoid	Double solenoid	Closed center, Exhaust center, Pressure center	NC/NC, NO/NO, NC/NO

Remark: For the optional specifications and order codes, see p.185.

Port Size

Piping specification \ Port	2 (B), 4(A)	1(P)	3, 5(R)
With sub-base	Rc1/8	Rc1/8	Rc1/8
Monoblock manifold	ϕ 4 or ϕ 6 fitting	Rc1/8	Rc1/8
Split manifold	ϕ 4 or ϕ 6 fitting	ϕ 8 fitting	ϕ 8 fitting or muffler

Specifications

Item \ Basic model	CS-JA10□A1 CS-JA10□A2 CS-JA10□A3 CS-JA10□A4	CS-JA10□A5	CS-JA10□A6	CS-JA10□A7 CS-JA10□A8 CS-JA10□A9	CS-JA10□AA CS-JA10□AB CS-JA10□AC
Media	Air				
Operation type	Internal pilot type				
Effective area〔Cv〕 mm²	3.5〔0.19〕			3.4〔0.19〕	3.5〔0.19〕
Port size Note1	φ4 fitting, φ6 fitting, Rc1/8				
Lubrication	Not required				
Operating pressure range MPa [psi.]	0.2～0.7 [29～102]				
Proof pressure MPa [psi.]	1.05 [152]				
Response time (ON/OFF)Note 2 ms	15/15 (15/20) or below		15 (20) or below	15/25 (15/35) or below	15/20 (15/30) or below
Maximum operating frequency Hz	5				
Minimum time to energize for self holding Note3 ms	—		50	—	
Operating temperature range (atmosphere and media) °C [°F]	5～50 [41～122]				
Shock resistance m/s² {G}	245 {25}				
Mounting direction	Any				

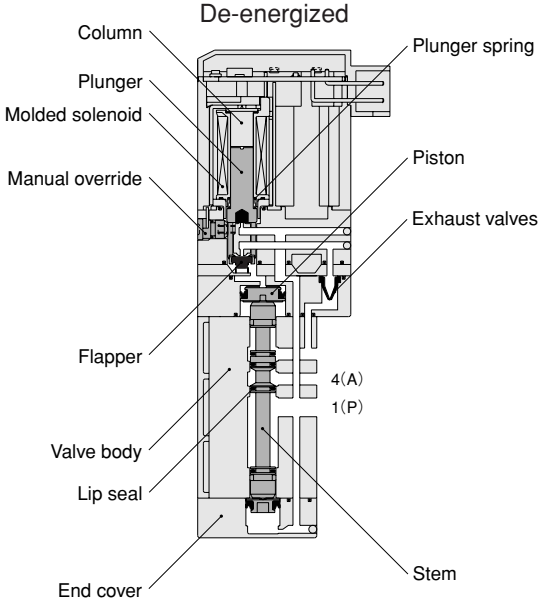
Notes: 1. For details, see the port size on p.181.
2. Values when air pressure is 0.5MPa [73psi.]. Values in parentheses ( ) are for the low-current specification. In addition, the values for the 3-position valves are switching time from neutral position.
3. For double solenoid valve.

Solenoid Specifications

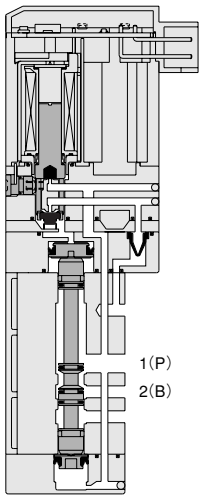
Item \ Rated voltage			DC24V (Standard specification)	DC24V (Low current specification)
Operating voltage range V			21.6～26.4 (24±10%)	21.6～26.4 (24±10%)
Standard	Current (when rated voltage is applied) mA(r.m.s)		21	—
Standard	Power consumption W		0.5	—
Low current specification	Current (when rated voltage is applied)	Starting mA	—	21
Low current specification	Current (when rated voltage is applied)	Holding mA	—	10.5
Low current specification	Power consumption	Starting W	—	0.5
Low current specification	Power consumption	Holding W	—	0.25
Low current specification	Start-up time (standard time) ms		—	50
Allowable leakage current mA			1.0	
Insulation resistance MΩ			Over 100 (value at DC500V megger)	
Color of LED indicator			14 (SA) : Red, 12(SB) : Green	
Surge suppression (as standard)			Surge absorption transistor	Flywheel diode

2-port

CS-JA10A1
De-energized



CS-JA10A2
De-energized

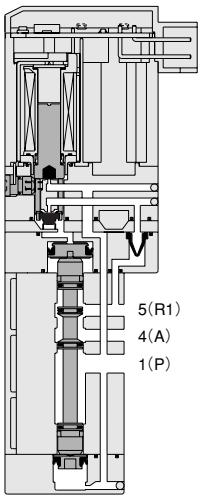


Major Parts and Materials

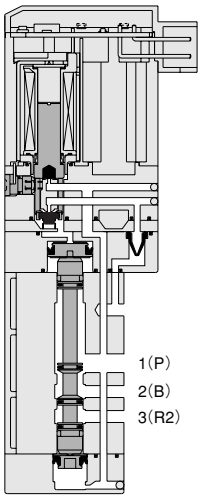
Parts			Materials
Valve	Body		Aluminum alloy (anodized)
	Stem		Aluminum alloy
	Exhaust valve		Synthetic rubber
	Lip seal		
	Flapper		
	Sub-base		Aluminum alloy (anodized)
	Plunger		Magnetic stainless steel
	Column		
	End cover		Plastic
Manifold	Body	Monoblock	Aluminum alloy (anodized)
		Split type	Plastic
	Block-off plate		Mild steel (nickel plated)
	Seal		Synthetic rubber

3-port

CS-JA10A3
De-energized

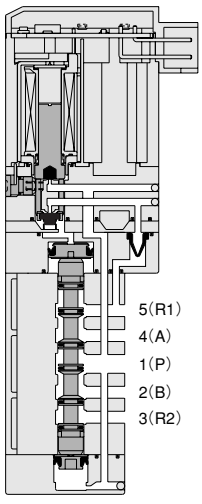


CS-JA10A4
De-energized

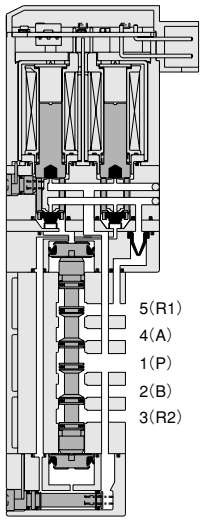


5-port, 2-position

CS-JA10A5
De-energized



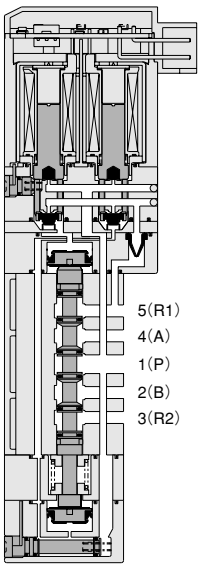
CS-JA10A6
〔De-energized condition after energizing solenoid 12(SB)〕



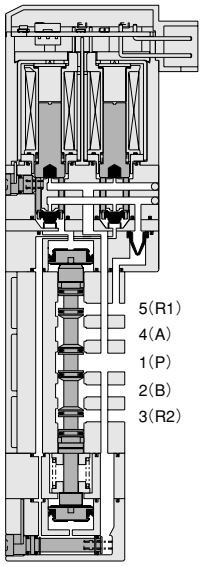
5-port, 3-position

〔Both 14 (SA) and 12 (SB) are de-energized〕

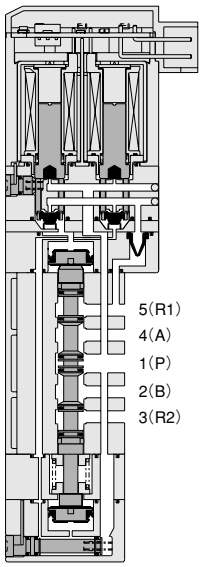
CS-JA10A7



CS-JA10A8



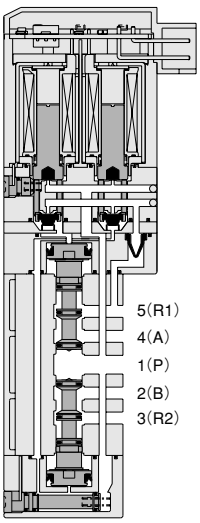
CS-JA10A9



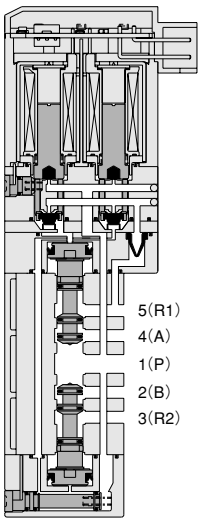
Tandem 3-port, 4-position

〔Both 14 (SA) and 12 (SB) are de-energized〕

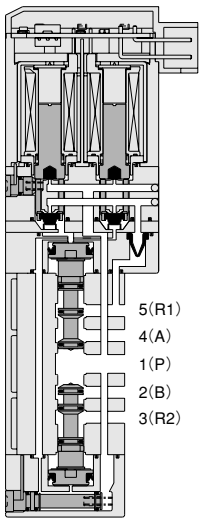
CS-JA10AA



CS-JA10AB



CS-JA10AC



Single Valve Unit Order Codes

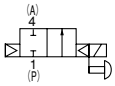
■Model

CS-JA10
Standard type

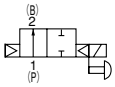
CS-JA10L
Low current type

■Valve specification

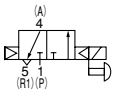
A1: 2-port normally closed



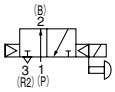
A2: 2-port normally open



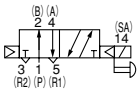
A3: 3-port normally closed



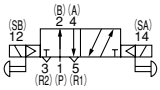
A4: 3-port normally open



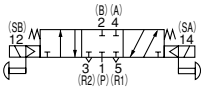
A5: 5-port 2-position, single solenoid



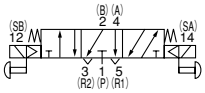
A6: 5-port 2-position, double solenoid



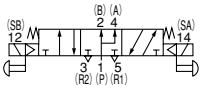
A7: 3-position, closed center



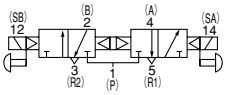
A8: 3-position, exhaust center



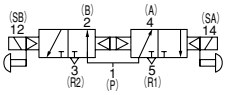
A9: 3-position, pressure center



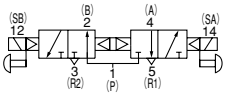
AA: Tandem 3-port (normally closed & normally closed)



AB: Tandem 3-port (normally open & normally open)



AC: Tandem 3-port (normally closed & normally open)



■Sub-base

Without sub-base[Note1]

With sub-base[Note2]

■Manual override

Non-locking type

Locking protruding type

■Wiring specification

Plug-in

S type plug connector
Without connector and leads

Positive common
S type plug connector
Lead wire 300mm [11.8in.]

Positive common
S type plug connector
Lead wire 3000mm [118in.]

Negative common
S type plug connector
Lead wire 300mm [11.8in.]

Negative common
S type plug connector
Lead wire 3000mm [118in.]

■Voltage

-D4
DC24V

Model	Valve specification	Sub-base	Manual override	Wiring specification	Voltage
CS-JA10 **CS-JA10L**	**A1** **A2** **A3** **A4** **A5** **A6** **A7** **A8** **A9** **AA** **AB** **AC**	**Blank** **-25**[Note2]	**Blank** **-83**	**Blank**[Note2] **-PN** **-PS** **-PS3** **-MS** **-MS3**	**-D4**

Notes: 1. Cannot be used as a single valve unit. Two manifold mounting screws are provided.
2. When ordering with a sub-base, the “Blank (plug-in)” cannot be selected as the wiring specification. Select from among **-PN**, **-PS**, **-PS3**, **-MS** or **-MS3**.

Additional Parts Order Codes for Single Valve Unit

Parts for single valve unit

CS - JAZ - ☐

Parts content

25 : Sub-base (sub-base and gasket)[Note 1]
GS1 : Gasket[Note 2]

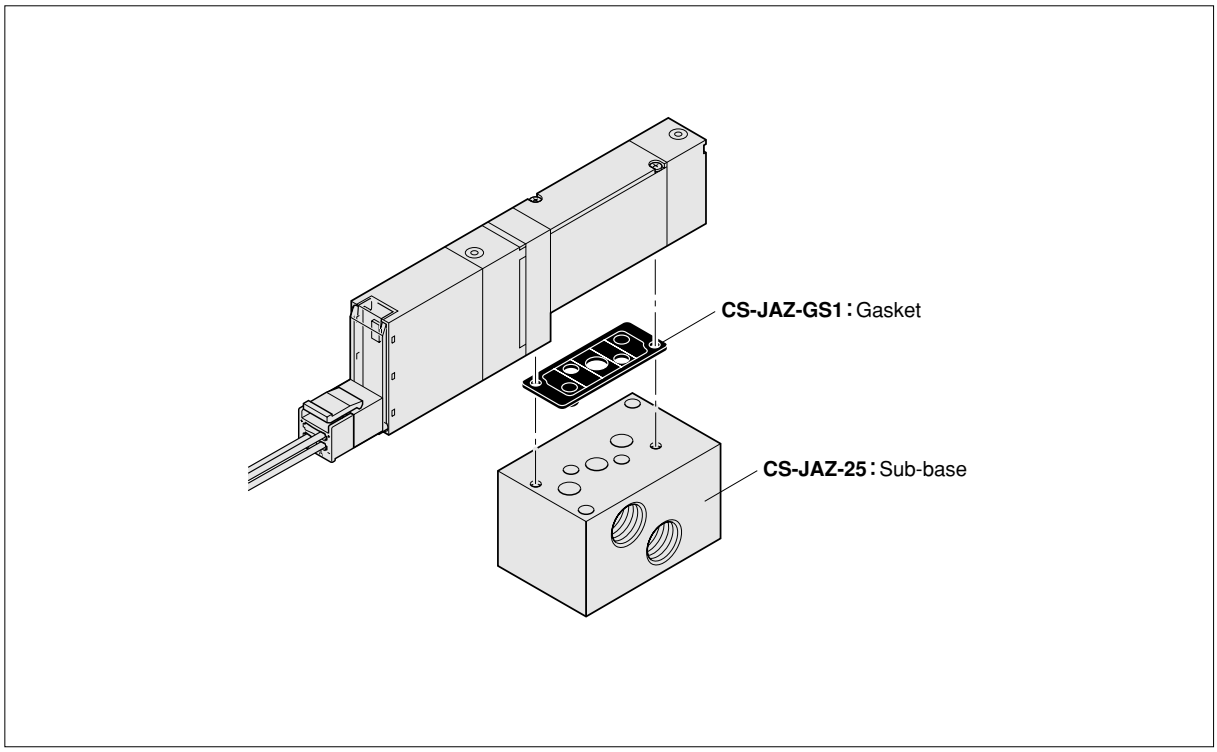
Notes: 1. Valve mounting screws are not included.
2. Care should be taken that this gasket is different from the **GS2** gasket for the split manifolds.

Connector-related

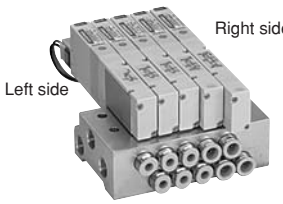
CS - JAZ - ☐

Connector specification

CP : Positive common plug connector, lead wire length 300mm [11.8in.]
CP3 : Positive common plug connector, lead wire length 3000mm [118in.]
CPN : Positive common plug connector, without lead wire (short bar and contacts included)
CM : Negative common plug connector, lead wire length 300mm [11.8in.]
CM3 : Negative common plug connector, lead wire length 3000mm [118in.]
CMN : Negative common plug connector, without lead wire (short bar and contacts included)



Monoblock Manifold Order Codes



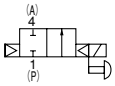
■Model

CS-JA10
Standard type

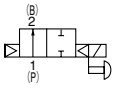
CS-JA10L
Low current type

■Valve specification

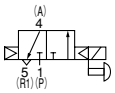
A1: 2-port normally closed



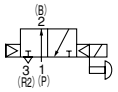
A2: 2-port normally open



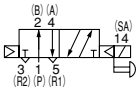
A3: 3-port normally closed



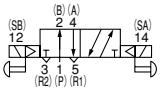
A4: 3-port normally open



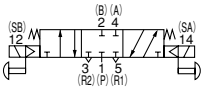
A5: 5-port 2-position, single sol.



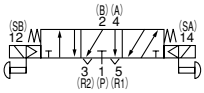
A6: 5-port 2-position, double sol.



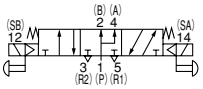
A7: 3-position, closed center



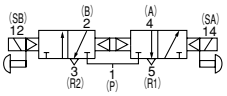
A8: 3-position, exhaust center



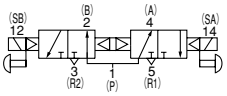
A9: 3-position, pressure center



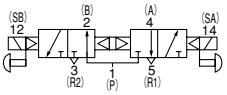
AA: Tandem 3-port (normally closed & normally closed)



AB: Tandem 3-port (normally open & normally open)



AC: Tandem 3-port (normally closed & normally open)



■Manual override

Non-locking type

Locking protruding type

■Wiring specification

S type plug connector
Without connector and leads

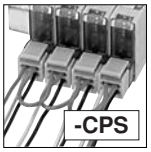
Positive common
S type plug connector
Lead wire 300mm [11.8in.]

Negative common
S type plug connector
Lead wire 300mm [11.8in.]

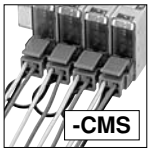
Positive common
S type plug connector
Lead wire 3000mm [118in.]

Negative common
S type plug connector
Lead wire 3000mm [11.8in.]

Positive common pre-wired terminal
S type plug connector
Lead wire 300mm [11.8in.]



Negative common pre-wired terminal
S type plug connector
Lead wire 300mm [11.8in.]



Positive common pre-wired terminal
S type plug connector
Lead wire 3000mm [118in.]

Negative common pre-wired terminal
S type plug connector
Lead wire 3000mm [118in.]

■Manifold fitting specification

With ϕ 4 fittings

With ϕ 6 fittings

■Individual air supply spacer

Without spacer

With individual air supply spacer

■Back pressure prevention valve

Blank
Without back pressure prevention valve

-E1
With back pressure prevention valve

■Voltage

-D4
DC24V

Model	Number of units	Station	Model	Valve specification	Manual override	Wiring specification	Manifold fitting specification	Back pressure prevention valve	Individual air supply spacer	Voltage
Manifold model		Mounting valve model								
CS-JAM	2 ⋮ 20	AJ	stn. 1 ⋮ stn.□ Note	CS-JA10 CS-JA10L	A1 A2 A3 A4 A5 A6 A7 A8 A9 AA AB AC	Blank -83	-PN -PS -PS3 -CPS -CPS3 -MS -MS3 -CMS -CMS3	-J4K -J6K	Blank -E1	Blank -NPM	-D4
				JABP (for block-off plate)						

Note: Valve mounting location is from the left, with the solenoid on top, and the 4(A) and 2(B) ports in front.

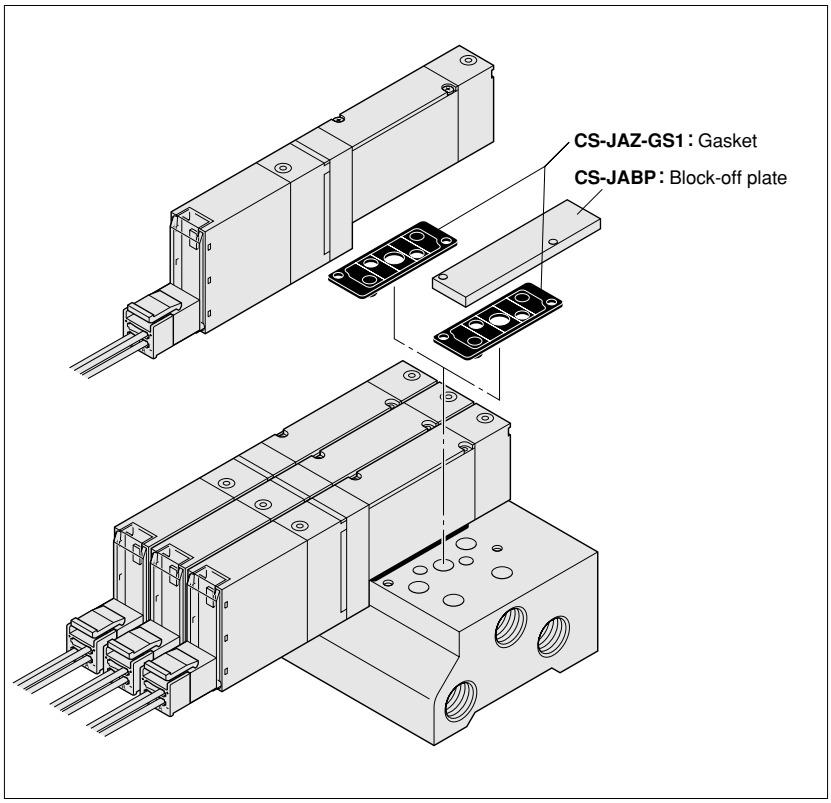
Additional Parts Order Codes for Monoblock Manifold

Manifold parts

CS - JAZ - □

Parts description

GS1 : Gasket
E1 : Back pressure prevention valve (2 pcs. for monoblock type)
J4K : ϕ 4 fitting (2 pcs. for monoblock type, and 1 pc. gasket)
J6K : ϕ 6 fitting (2 pcs. for monoblock type, and 1 pc. gasket)
NPM: Individual air supply spacer (Spacer body, gasket and 2 mounting screws)



Block-off plate (block-off plate and 2 mounting screws)

CS-JABP

Connector-related

CS - JAZ - □

Connector specification

CP : Positive common plug connector, lead wire length 300mm [11.8in.]
CP3 : Positive common plug connector, lead wire length 3000mm [118in.]
CPN : Positive common plug connector, without lead wire (short bar and contacts included)
PA : Positive common A type, plug connector lead wire length 300mm [11.8in.]※
PA3 : Positive common A type, plug connector lead wire length 3000mm [118in.]※
PB : Positive common B type, plug connector lead wire length 300mm [11.8in.]※
PB3 : Positive common B type, plug connector lead wire length 3000mm [118in.]※
PC : Positive common C type, plug connector lead wire length 300mm [11.8in.]※
PC3 : Positive common C type, plug connector lead wire length 3000mm [118in.]※
CM : Negative common plug connector, lead wire length 300mm [11.8in.]
CM3 : Negative common plug connector, lead wire length 3000mm [118in.]
CMN: Negative common plug connector, without lead wire (short bar and contacts included)
MA : Negative common A type, plug connector lead wire length 300mm [11.8in.]※
MA3 : Negative common A type, plug connector lead wire length 3000mm [118in.]※
MB : Negative common B type, plug connector lead wire length 300mm [11.8in.]※
MB3 : Negative common B type, plug connector lead wire length 3000mm [118in.]※
MC : Negative common C type, plug connector lead wire length 300mm [11.8in.]※
MC3 : Negative common C type, plug connector lead wire length 3000mm [118in.]※

※For details, see the Valves General Catalog.

Manifold Order Code Example (6 units of JA series)

CS-JAM6AJ

stn.1～2 CS-JA10A5-PS-J4K-D4
stn.3～5 CS-JA10A6-PS-J6K-D4
stn.6 CS-JABP-J6K

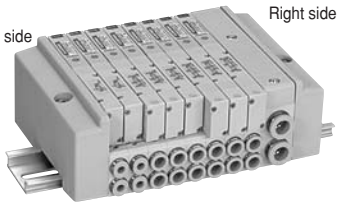
Note: This order code example has no relation to the illustration above.

Precautions for Order Codes

● **Order for valves only**

Place orders by **"Single Valve Unit Order Codes"** on p.185.
For common terminal wiring connections, order separately the common connector assemblies listed above.

Split Manifold Non-Plug-in Type Order Codes



■Piping block specification (air supply and exhaust)

-JR: 1(P) and 3, 5(R) ports ϕ 8 fitting
right-side mounting
-JL: 1(P) and 3, 5(R) ports ϕ 8 fitting
left-side mounting
-JD: 1(P) and 3, 5(R) ports ϕ 8 fitting
both-side mounting

The photo shows the **-JR** type.

-MR: 1(P) port ϕ 8 fitting, 3, 5(R) ports built-in muffler
right-side mounting
-ML: 1(P) port ϕ 8 fitting, 3, 5(R) ports built-in muffler
left-side mounting
-MD: 1(P) port ϕ 8] fitting, 3, 5(R) ports built-in muffler
both-side mounting

The photo shows the **-MR** type.

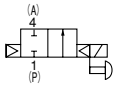
■Model

CS-JA10
Standard type

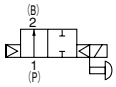
CS-JA10L
Low current type

■Valve specification

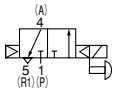
A1: 2-port normally closed



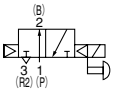
A2: 2-port normally open



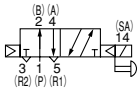
A3: 3-port normally closed



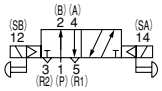
A4: 3-port normally open



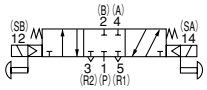
A5: 5-port 2-position, single sol.



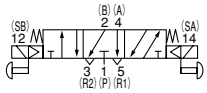
A6: 5-port 2-position, double sol.



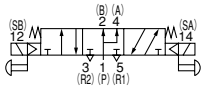
A7: 3-position, closed center



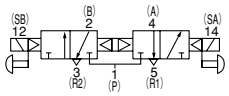
A8: 3-position, exhaust center



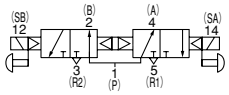
A9: 3-position, pressure center



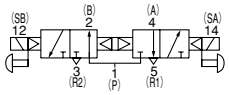
AA: Tandem 3-port (normally closed & normally closed)



AB: Tandem 3-port (normally open & normally open)



AC: Tandem 3-port (normally closed & normally open)



Model	Number of valve units		Piping block specification (air supply and exhaust)
Manifold model			
CS-JAM	**2** **⋮** **20**	**NJ**	**-JR** **-JL** **-JD** **-MR** **-ML** **-MD**

■Manual override

Non-locking type

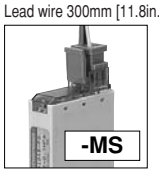
Locking protruding type

■Wiring specification

S type plug connector
Without connector ass'y

Positive common
S type plug connector
Lead wire 300mm [11.8in.]

Negative common
S type plug connector
Lead wire 300mm [11.8in.]

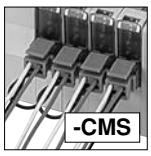


Positive common
S type plug connector
Lead wire 3000mm [118in.]

Negative common
S type plug connector
Lead wire 3000mm [118in.]

Positive common
pre-wired terminal
S type plug connector
Lead wire 300mm [11.8in.]

Negative common
pre-wired terminal
S type plug connector
Lead wire 300mm [11.8in.]

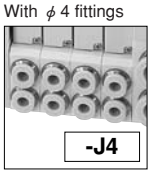


Positive common
pre-wired terminal
S type plug connector
Lead wire 3000mm [118in.]

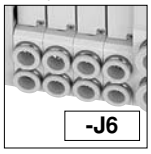
Negative common
pre-wired terminal
S type plug connector
Lead wire 3000mm [118in.]

■Manifold fitting specification

With ϕ 4 fittings



With ϕ 6 fittings



■Individual air supply spacer

Without spacer

With individual air supply spacer

■Back pressure prevention valve

Blank
Without back pressure prevention valve

-E2
With back pressure prevention valve

■Port isolator

Blank : Without port isolator
-S1 : For 1(P) port
-S3 : For 3(R2) and 5(R1) ports
-SA : For 1(P), 3(R2) and 5(R1) ports

■Voltage

-D4
DC24V

Station	Model	Valve specification	Manual override	Wiring specification	Manifold fitting specification	Back pressure prevention valve	Individual air supply spacer	Port isolator	Voltage
Mounting valve model									
stn. 1 ⋮ **stn.□** Note1	**CS-JA10** **CS-JA10L**	**A1** **A2** **A3** **A4** **A5** **A6** **A7** **A8** **A9** **AA** **AB** **AC**	**Blank** **-83**	**-PN** **-PS** **-PS3** **-CPS** **-CPS3** **-MS** **-MS3** **-CMS** **-CMS3**	**-J4** **-J6**	**Blank** **-E2**	**Blank** **-NPM**	**Blank** **-S1**Note2 **-S3**Note2 **-SA**Note2	**-D4**
	JABP (for block-off plate)								

Notes: 1. Valve mounting location is from the left, with the solenoid on top, and the 4(A) and 2(B) ports in front.
2. Port isolators can be installed only when piping blocks are mounted on both sides. In addition, only 1 location for each port isolator can be installed in 1 manifold for **-SA**, or 1 each port isolator for **-S1** and **-S3** for a total of 2 locations. When shipping, the designated port isolators are installed between the designated station and the station to its immediate left (the next smaller stn. No.).

Additional Parts Order Codes for Split Manifold Non-Plug-in Type

Manifold parts

CS - JAZ - □

Parts description

GS2 : Gasket (for split type)
E2 : Back pressure prevention valve (2 pcs. for split type and 1 pc. gasket)
J4 : 2 pcs. ϕ 4 fittings, and 1 pc. stopper pin
J6 : 2 pcs. ϕ 6 fittings, and 1 pc. stopper pin
J8 : 2 pcs. ϕ 8 fittings, and 1 pc. stopper pin
M : Muffler for piping block
NPM : Individual air supply spacer (spacer body, gasket and 2 mounting screws)
S1 : Port isolator for 1(P) port
S3 : Port isolator for 3(R2) and 5(R1) ports
SA : Port isolator for 1(P) port, 3(R2) and 5(R1) ports

Block-off plate (block-off plate and 2 mounting screws)

CS - JABP

Piping block assembly

CS - JAZ - □

Piping specification

PJ : 1(P) and 3, 5(R) ports ϕ 8 fittings
PM : 1(P) port ϕ 8 fitting, 3, 5(R) ports built-in mufflers

End blocks (one set of left and right)

CS - JAZ - E

Connector-related

CS - JAZ - □

Connector specification

CP : Positive common plug connector, lead wire length 300mm [11.8in.]
CP3 : Positive common plug connector, lead wire length 3000mm [118in.]
CPN : Positive common plug connector, without lead wire (short bar and contacts included)
PA : Positive common A type, plug connector lead wire length 300mm [11.8in.]※
PA3 : Positive common A type, plug connector lead wire length 3000mm [118in.]※
PB : Positive common B type, plug connector lead wire length 300mm [11.8in.]※
PB3 : Positive common B type, plug connector lead wire length 3000mm [118in.]※
PC : Positive common C type, plug connector lead wire length 300mm [11.8in.]※
PC3 : Positive common C type, plug connector lead wire length 3000mm [118in.]※
CM : Negative common plug connector, lead wire length 300mm [11.8in.]
CM3 : Negative common plug connector, lead wire length 3000mm [118in.]
CMN : Negative common plug connector, without lead wire (short bar and contacts included)
MA : Negative common A type, plug connector lead wire length 300mm [11.8in.]※
MA3 : Negative common A type, plug connector lead wire length 3000mm [118in.]※
MB : Negative common B type, plug connector lead wire length 300mm [11.8in.]※
MB3 : Negative common B type, plug connector lead wire length 3000mm [118in.]※
MC : Negative common C type, plug connector lead wire length 300mm [11.8in.]※
MC3 : Negative common C type, plug connector lead wire length 3000mm [118in.]※

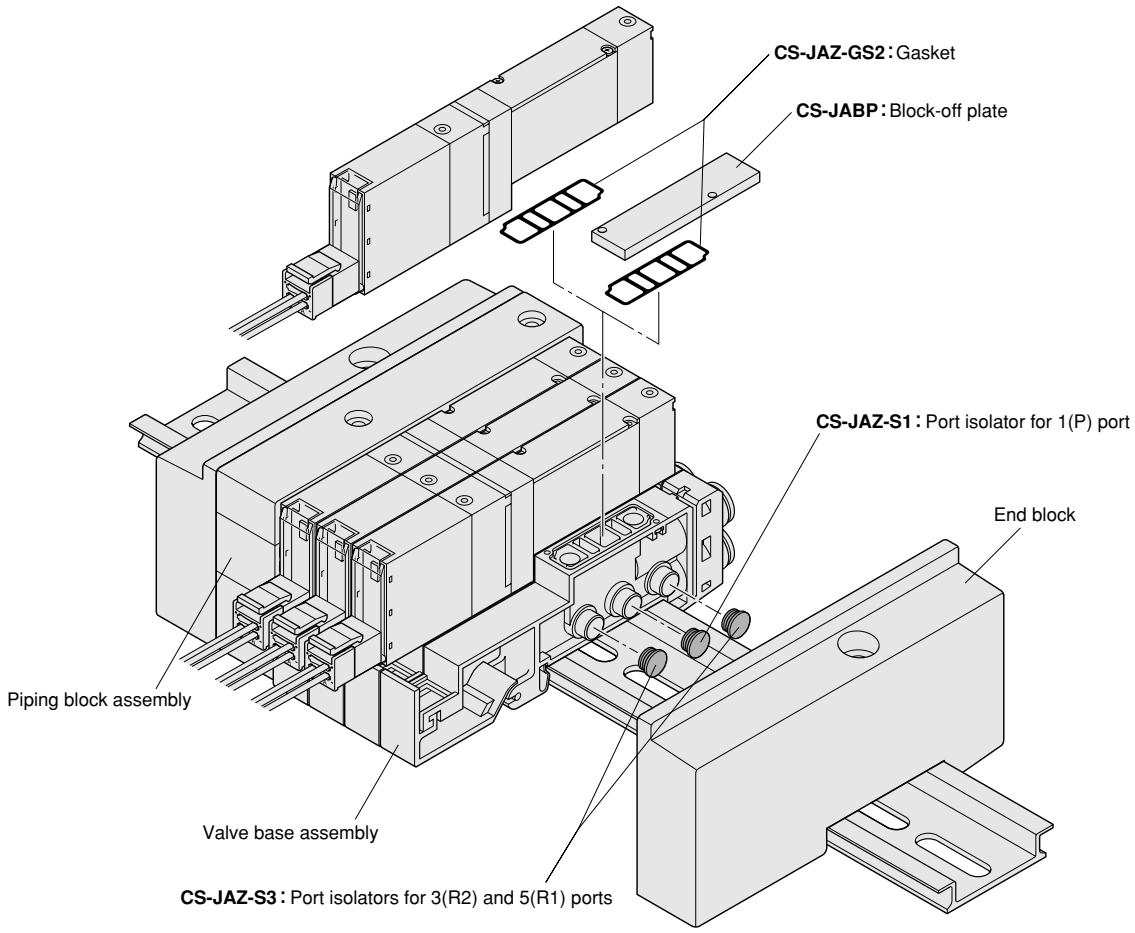
※For details, see the Valves General Catalog.

Valve base assembly (valve base and gasket)

CS - JAZ - □

Piping specification

VJ4 : With ϕ 4 fitting
VJ6 : With ϕ 6 fitting



Manifold Order Code Example (6 units of JA series)

CS-JAM6NJ-JR

stn.1～2 CS-JA10A5-PS-J4-D4
stn.3～5 CS-JA10A6-PS-J6-D4
stn.6 CS-JABP-J6

Note: This order code example has no relation to the illustration above.

Precautions for Order Codes

● **Order for valves only**
Place orders by **"Single Valve Unit Order Codes"** on p.185.
For wiring specifications, **Blank** (plug-in type valve) cannot be selected.
For common terminal wiring connections, order separately the common connector assemblies listed to the left.

Split Manifold Plug-in Type Order Codes

■Piping block specification (air supply and exhaust)

-JR: 1(P) and 3, 5(R) ports ϕ8 fitting right-side mounting
-JL: 1(P) and 3, 5(R) ports ϕ8 fitting left-side mounting
-JD: 1(P) and 3, 5(R) ports ϕ8 fitting both-side mounting

The photo shows the **-JR** type.

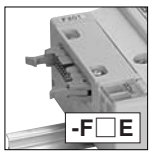
-MR: 1(P) port ϕ8 fitting, 3, 5(R) ports built-in muffler, right-side mounting
-ML: 1(P) port ϕ8 fitting, 3, 5(R) ports built-in muffler, left-side mounting
-MD: 1(P) port ϕ8 fitting, 3, 5(R) ports built-in muffler, both-side mounting

The photo shows the **-MR** type.

■Wiring specification (wiring block)

Flat cable connector
(with socket and strain relief)

-F200: 20-pin (connector on upper side)
-F201: 20-pin (connector on upper side)
-F260: 26-pin (connector on upper side)



-F200E: 20-pin (connector on side)
-F201E: 20-pin (connector on side)
-F260E: 26-pin (connector on side)

D-sub connector
(M2.6 mounting screw)

-D250: 25-pin (connector on upper side)
-D251: 25-pin (connector on upper side)

-D250E: 25-pin (connector on side)
-D251E: 25-pin (connector on side)

※ For details of wiring specification, see the Valves General Catalog.

■Wiring connection specification

Blank

Packed wiring : Wiring is made in accordance with the mounted valve specifications.Note

-D

Double wiring : Wiring is always the one for the double solenoid, regardless of the specifications of the mounted valve.Note

Note: The wiring for the block-off plate is normally the one for the double solenoid. However, when -S is designated as the block-off plate wiring specification, the block-off plate wiring of the station is changed to the one for the single solenoid.

■Pre-wired common

Blank
Positive common

-CM
Negative common

■Voltage

-D4
DC24V

Model	Number of valve units		Piping block specification (air supply and exhaust)	Wiring specification	Wiring connection specification	pre-wired common	Voltage
Manifold model							
CS-JAM	**2** ⋮ □ Note1	**PJ**	**-JR** **-JL** **-JD** **-MR** **-ML** **-MD**	**-F200** **-F201** **-F260** **-F200E** **-F201E** **-F260E** **-D250** **-D251** **-D250E** **-D251E**	**Blank** **-D**	**Blank** **-CM**	**-D4**

Notes: 1. For the maximum number of units, see the table for maximum number of valve units by wiring specification, on p.195.

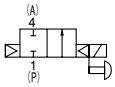
Model

CS-JA10
Standard type

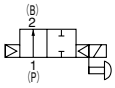
CS-JA10L
Low current type

Valve specification

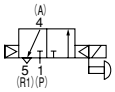
A1 : 2-port normally closed



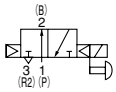
A2 : 2-port normally open



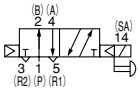
A3 : 3-port normally closed



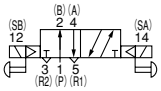
A4 : 3-port normally open



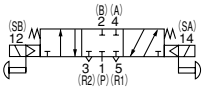
A5 : 5-port 2-position, single sol.



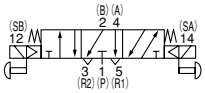
A6 : 5-port 2-position, double sol.



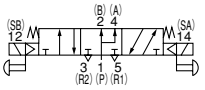
A7 : 3-position, closed center



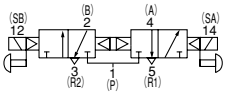
A8 : 3-position, exhaust center



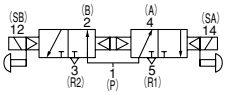
A9 : 3-position, pressure center



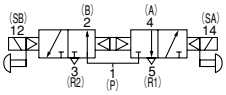
AA : Tandem 3-port (normally closed & normally closed)



AB : Tandem 3-port (normally open & normally open)



AC : Tandem 3-port (normally closed & normally open)



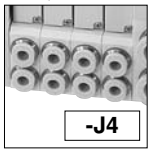
Manual override

Non-locking type

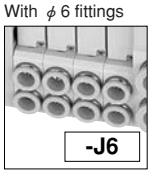
Locking protruding type

Manifold fitting specification

With ϕ 4 fittings



With ϕ 6 fittings



Back pressure prevention valve

Blank
Without back pressure prevention valve

-E2
With back pressure prevention valve

Individual air supply spacer

Without spacer

With individual air supply spacer

Port isolator

Blank : Without port isolator
-S1 : For 1(P) port
-S3 : For 3(R2) and 5(R1) ports
-SA : For 1(P),
3(R2) and 5(R1) ports

Block-off plate wiring specification

Blank
Wiring is always the one for the double solenoid.

-S
When **-S** is designated, the block-off plate wiring of the station is changed to the one for the single solenoid.

Voltage

-D4
DC24V

Station	Model	Valve specification	Manual override	Manifold fitting specification	Back pressure prevention valve	Individual air supply spacer	Port isolator	Block-off plate wiring specification	Voltage
Mounting valve model									
stn. 1 ⋮ stn.□ Note2	CS-JA10 CS-JA10L	A1 A2 A3 A4 A5 A6 A7 A8 A9 AA AB AC	Blank -83	-J4 -J6	Blank -E2	Blank -PPM	Blank -S1 Note3 -S3 Note3 -SA Note3	Blank -S	-D4
	JABPP (for block-off plate)								

Notes: 2. Valve mounting location is from the left, with the solenoid on top, and the 4(A) and 2(B) ports in front.
3. Port isolators can be installed only when piping blocks are mounted on both sides. In addition, only 1 location of each port isolator can be installed in 1 manifold for **-SA**, or 1 each port isolator for **-S1** and **-S3**, for a total of 2 locations. When shipping, the designated port isolators are installed between the designated station and the station to its immediate left (the next smaller stn. No.).

Additional Parts Order Codes for Split Manifold Plug-in Type

Manifold parts

CS - JAZ - □

Parts description
GS2 : Gasket (for split type)
E2 : Back pressure prevention valve (2 pcs. for split type, and 1 pc. gasket)
J4 : 2 pcs. ϕ 4 fittings, and 1 pc. stopper pin
J6 : 2 pcs. ϕ 6 fittings, and 1 pc. stopper pin
J8 : 2 pcs. ϕ 8 fittings, and 1 pc. stopper pin
M : Muffler for piping block
PPM : Individual air supply spacer (spacer body, gasket, 2 mounting screws, and connector ass'y)
S1 : Port isolator for 1(P) port
S3 : Port isolator for 3(R2) and 5(R1) ports
SA : Port isolator for 1(P) port, 3(R2) and 5(R1) ports

Block-off plate (block-off plate, 2 mounting screws, and plug)

CS - JABPP

Piping block assembly

CS - JAZ - □

Piping specification
PJ : 1(P) and 3, 5(R) ports ϕ 8 fittings
PM : 1(P) port ϕ 8 fitting, 3, 5(R) ports built-in mufflers

Wiring block assembly (one set)

CS - JAZ - □ - □ - □

Voltage
D4 : DC24V

Pre-wired common
Blank : Positive common
CM : Negative common

Wiring specification
F200 : Flat cable connector
F201 : Flat cable connector
F260 : Flat cable connector
D250 : D-sub connector
D251 : D-sub connector

End blocks (one set of left and right)

CS - JAZ - EP

Valve base assembly (valve base, gasket, lead wire and plug-in connector)

CS - JAZ - □ - □ - □

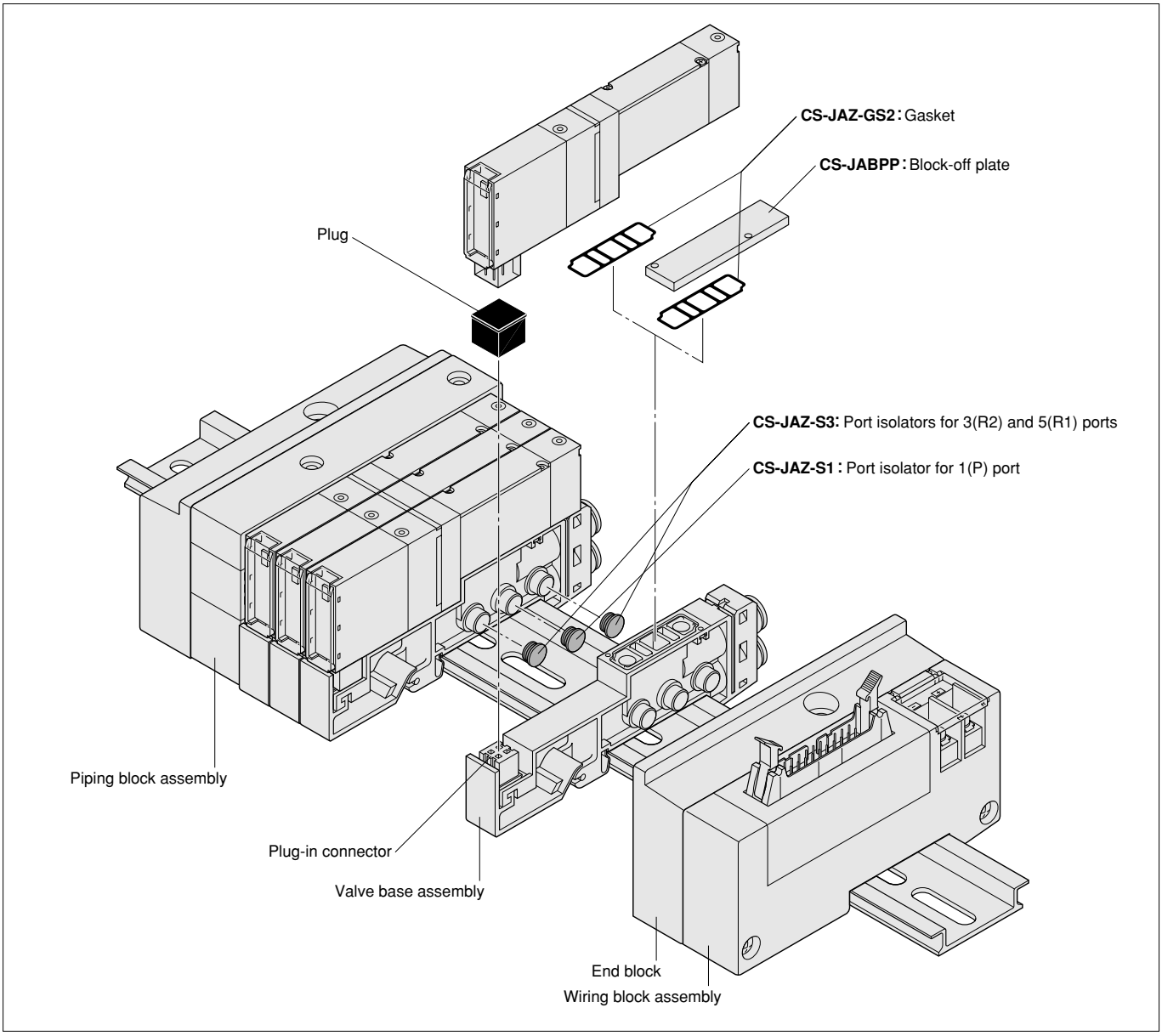
Pre-wired common
Blank: Positive common
CM : Negative common

Wiring specification
D : For D-sub connector
F : For flat cable connector

Piping specification
VJ4 : With ϕ 4 fitting
VJ6 : With ϕ 6 fitting

■Table for maximum number of valve units by wiring specification

		Maximum number of units	
		Wiring connection specification	
Wiring specification	Max. outputs	Packed wiring (**Blank**)	Double wiring (**-D**)
F200□ Flat cable (20P)	16	Varies depending on the mounted number of single solenoids, double solenoids and block-off plates. The number of controllable solenoids should be the maximum number of outputs to the left or less.	8 units
F201□ Flat cable (20P)	16		8 units
F260□ Flat cable (26P)	20		10 units
D250□ D-sub connector (25P)	16		8 units
D251□ D-sub connector (25P)	20		10 units



Manifold Order Code Example (8 units of JA series)

CS-JAM8PJ-JR-F201-D4

stn.1～4 CS-JA10A5-J4-D4
stn.5～7 CS-JA10A6-J6-D4
stn.8 CS-JABPP-J6

Note: This order code example has no relation to the illustration above.

Precautions for Order Codes

● **Order for valves only**
Place orders by "**Single Valve Unit Order Codes**" on p.185.
The wiring specification, however, is available on the **Blank** (plug-in type) only.

● **Wiring connection specification**
Blank (packed wiring) : Wiring is made in accordance with the mounted valve specifications.
-D (double wiring) : Wiring is always for the double solenoid, regardless of the mounted valve specifications.

Note: The wiring for the block-off plate is normally the one for the double solenoid. However, when **-S** is designated as the block-off plate wiring specification, the block-off plate wiring of the station is changed to the one for the single solenoid.

Serial Transmission Type Order Codes

■Piping block specification (air supply and exhaust)

JR : 1(P) and 3, 5(R) ports ϕ8 fitting right-side mounting
-JL : 1(P) and 3, 5(R) ports ϕ8 fitting left-side mounting
-JD : 1(P) and 3, 5(R) ports ϕ8 fitting both-side mounting

The photo shows the **-JR** type.

-MR : 1(P) port ϕ8 fitting, 3, 5(R) ports built-in muffler right-side mounting
-ML : 1(P) port ϕ8 fitting, 3, 5(R) ports built-in muffler left-side mounting
-MD : 1(P) port ϕ8 fitting, 3, 5(R) ports built-in muffler both-side mounting

The photo shows the **-MR** type.

■Serial transmission block specification

※These are serial transmission block specifications compatible with each system.

For details, see the Valves General Catalog.

-A1 : For Omron CompoBus/S (16 outputs)
-B1 : For Mitsubishi Electric CC-Link (16 outputs)
-B3 : For Mitsubishi Electric CC-Link (32 outputs)
-D1 : For DeviceNet (CompoBus/D)
-F1 : For SUNX S-LINK V (16 outputs)

■Wiring connection specification

Blank

Packed wiring : Wiring is made in accordance with the mounted valve specifications.Note

-D

Double wiring : Wiring is always the one for the double solenoid, regardless of the specifications of the mounted valve.Note

Note: The wiring for the block-off plate is normally the one for the double solenoid. However, when -S is designated as the block-off plate wiring specification, the block-off plate wiring of the station is changed to the one for the single solenoid.

Model	Number of valve units		Piping block specification (air supply and exhaust)	Serial transmission block specification	Wiring connection specification
Manifold model					
CS-JAM	**2** ⋮ □ Note1	**SJ**	**-JR** **-JL** **-JD** **-MR** **-ML** **-MD**	**-A1** **-B1** **-B3** **-D1** **-F1**	**Blank** **-D**

Notes: 1. For the maximum number of units, see the table for maximum number of valve units by serial transmission block specification, on p.199.

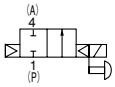
■Model

CS-JA10
Standard type

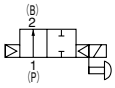
CS-JA10L
Low current type

■Valve specification

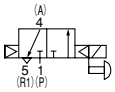
A1 : 2-port normally closed



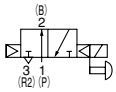
A2 : 2-port normally open



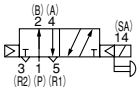
A3 : 3-port normally closed



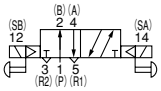
A4 : 3-port normally open



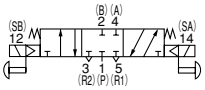
A5 : 5-port 2-position, single sol.



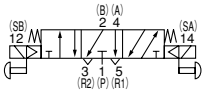
A6 : 5-port 2-position, double sol.



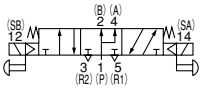
A7 : 3-position, closed center



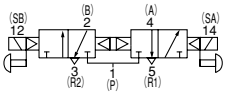
A8 : 3-position, exhaust center



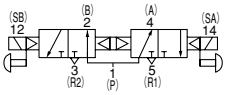
A9 : 3-position, pressure center



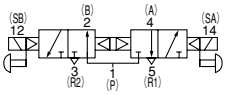
AA : Tandem 3-port (normally closed & normally closed)



AB : Tandem 3-port (normally open & normally open)



AC : Tandem 3-port (normally closed & normally open)



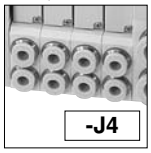
■Manual override

Non-locking type

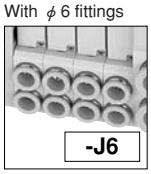
Locking protruding type

■Manifold fitting specification

With ϕ 4 fittings



With ϕ 6 fittings



■Back pressure prevention valve

Blank
Without back pressure prevention valve

-E2
With back pressure prevention valve

■Individual air supply spacer

Without spacer

With individual air supply spacer

■Port isolator

Blank : Without port isolator
-S1 : For 1(P) port
-S3 : For 3(R2) and 5(R1) ports
-SA : For 1(P), 3(R2) and 5(R1) ports

■Block-off plate wiring specification

Blank
Wiring is always the one for the double solenoid.

-S
When **-S** is designated, the block-off plate wiring of the station is changed to the one for the single solenoid.

■Voltage

-D4
DC24V

Station	Model	Valve specification	Manual override	Manifold fitting specification	Back pressure prevention valve	Individual air supply spacer	Port isolator	Block-off plate wiring specification	Voltage
Mounting valve model									
stn. 1 ⋮ stn.□ Note2	CS-JA10 CS-JA10L	A1 A2 A3 A4 A5 A6 A7 A8 A9 AA AB AC	Blank -83	-J4 -J6	Blank -E2	Blank -PPM	Blank -S1 Note3 -S3 Note3 -SA Note3	Blank -S	-D4
	CS-JABPP (for block-off plate)								

Notes: 2. Valve mounting location is from the left, with the solenoid on top, and the 4(A) and 2(B) ports in front.
3. Port isolators can be installed only when piping blocks are mounted on both sides. In addition, only 1 location of each port isolator can be installed in 1 manifold for **-SA,** or 1 each port isolator for **-S1** and **-S3**, for a total of 2 locations. When shipping, the designated port isolators are installed between the designated station and the station to its immediate left (the next smaller stn. No.).

Additional Parts Order Codes for Serial Transmission Type

Manifold parts

CS - JAZ - □

Parts description
GS2 : Gasket (for split type)
E2 : Back pressure prevention valve (2 pcs. for split type, and 1 pc. gasket)
J4 : 2 pcs. ϕ 4 fittings, and 1 pc. stopper pin
J6 : 2 pcs. ϕ 6 fittings, and 1 pc. stopper pin
J8 : 2 pcs. ϕ 8 fittings, and 1 pc. stopper pin
M : Muffler for piping block
PPM : Individual air supply spacer (spacer body, gasket, 2 mounting screws, and connector ass'y)
S1 : Port isolator for 1(P) port
S3 : Port isolator for (R2) and 5(R1) ports
SA : Port isolator for 1(P) port, 3(R2) and 5(R1) ports

Block-off plate (block-off plate, 2 mounting screws, and plug)

CS - JABPP

Piping block assembly

CS - JAZ - □

Piping specification
PJ : 1(P) and 3, 5(R) ports ϕ 8 fittings
PM : 1(P) port ϕ 8 fitting, 3, 5(R) ports built-in mufflers

End blocks (one set of left and right)

CS - JAZ - EP

Valve base assembly (valve base, gasket, lead wire and plug-in connector)

CS - JAZ - □ - F

Piping specification
VJ4 : With ϕ 4 fitting
VJ6 : With ϕ 6 fitting

Serial transmission block (single unit)

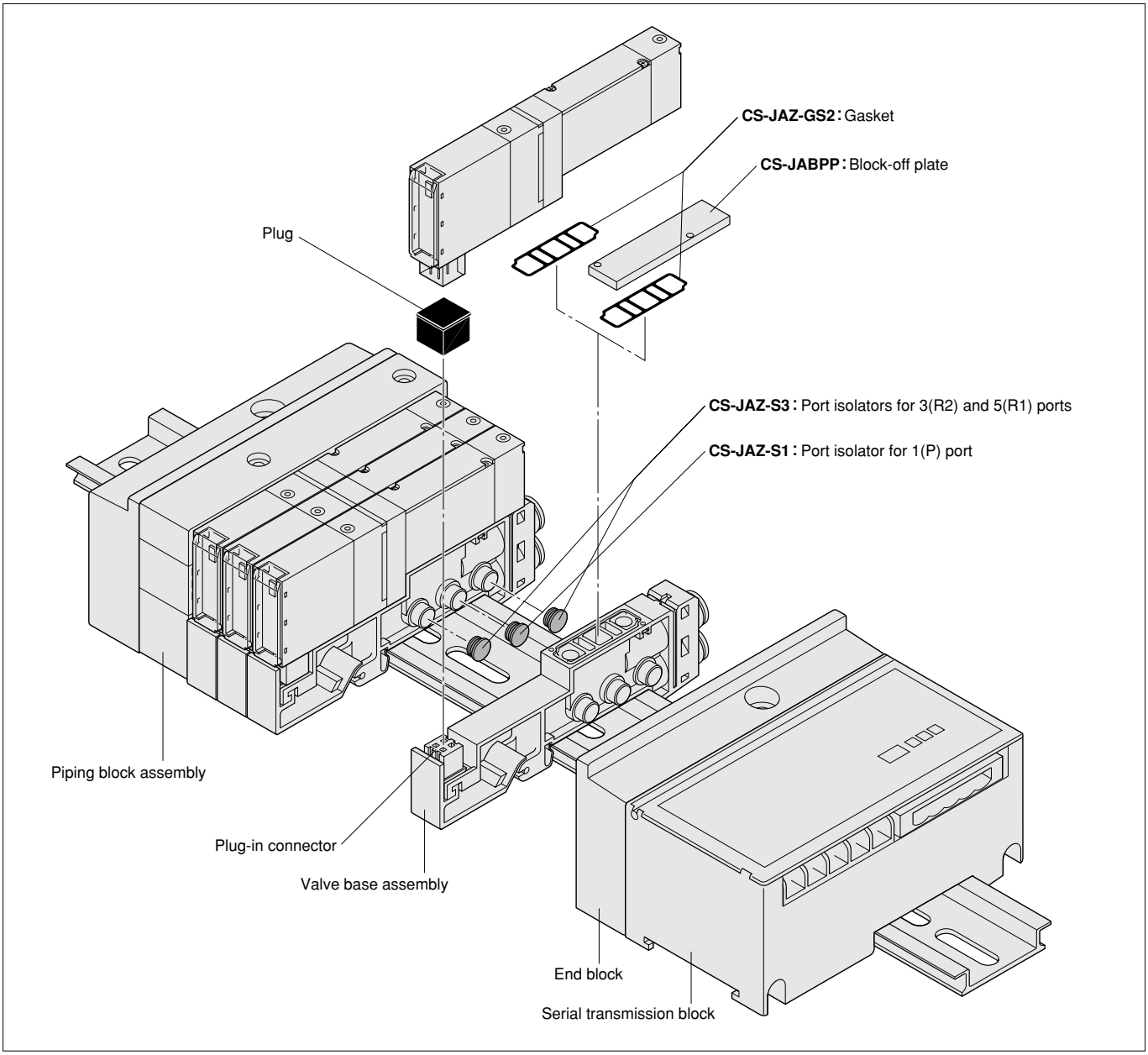
CS - YS5 □ □

Options
Blank: For replacement of JA Series serial transmission block
U : With flat cable (general purpose type) Note compatible with F201
Note: For general purpose type, see the Valves General Catalog.

Serial transmission block specification
A1 : For Omron CompoBus/S (16 outputs)
B1 : For Mitsubishi Electric CC-Link (16 outputs)
B3 : For Mitsubishi Electric CC-Link (32 outputs)
D1 : For DeviceNet (CompoBus/D)
F1 : For SUNX S-LINK V (16 outputs)

■Table for maximum number of valve units by serial transmission block specification

		Maximum number of units	
		Wiring connection specification	
Transmission block specification	Max. outputs	Packed wiring (**Blank**)	Double wiring (**-D**)
A1 : For Omron CompoBus/S (16 outputs)	16	Varies depending on the mounted number of single solenoids, double solenoids and block-off plates. The number of controllable solenoids should be the maximum number of outputs to the left or less.	8 units
B1 : For Mitsubishi Electric CC-Link (16 outputs)	16		8 units
B3 : For Mitsubishi Electric CC-Link (32 outputs)	32		16 units
D1 : For DeviceNet (CompoBus/D)	16		8 units
F1 : For SUNX S-LINK V (16 outputs)	16		8 units



Manifold Order Code Example (8 units of JA series)

CS-JAM8SJ-JR-A1

stn.1～4 CS-JA10A5-J4-D4
stn.5～7 CS-JA10A6-J6-D4
stn.8 CS-JABPP-J6

Note: This order code example has no relation to the illustration above.

Precautions for Order Codes

● **Order for valves only**

Place orders by **"Single Valve Unit Order Codes"** on p.185.
The wiring specification, however, is compatible with the **Blank** (plug-in type) only.

● **Wiring connection specification**

Blank (packed wiring) : Wiring is made in accordance with the mounted valve specifications.
-D (double wiring) : Wiring is always for the double solenoid, regardless of the mounted valve specifications.

Note: The wiring for the block-off plate is normally the one for the double solenoid. However, when **-S** is designated as the block-off plate wiring specification, the block-off plate wiring of the station is changed to the one for the single solenoid.

Dimensions of JA Series Solenoid Valve mm [in.]

2-, 3-port, single solenoid

CS-JA10□A1-□-PS

CS-JA10□A2-□-PS

CS-JA10□A3-□-PS

CS-JA10□A4-□-PS

S type plug connector

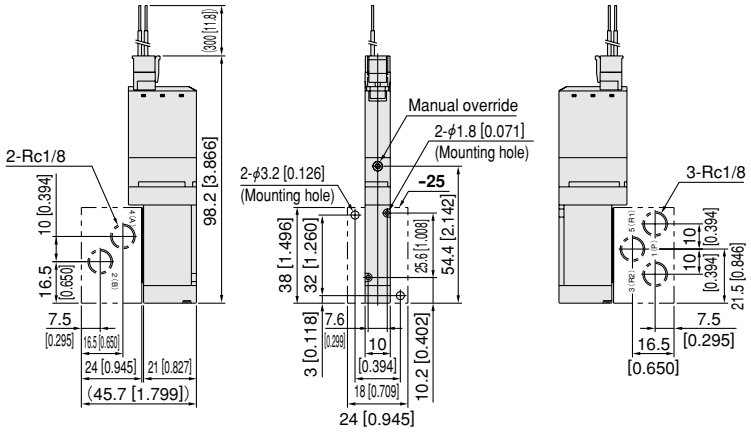
Caution:

A1 : For 2-port normally closed type, plugged 2(B)

A2 : For 2-port normally open type, plugged 4(A)

A3 : For 3-port normally closed type, plugged 2(B)

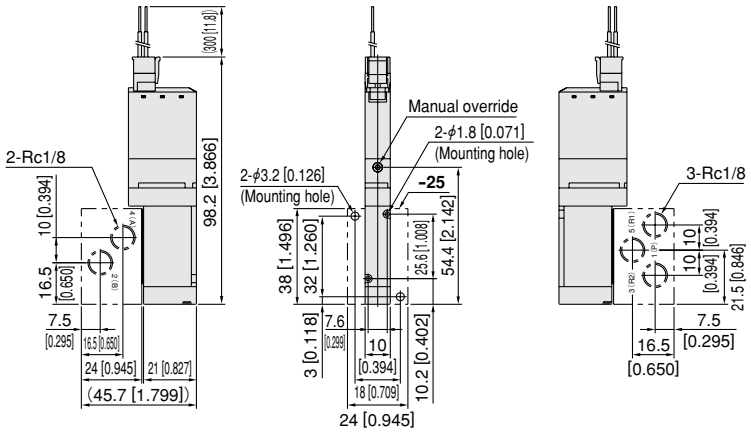
A4 : For 3-port normally open type, plugged 4(A)



5-port, single solenoid

CS-JA10□A5-□-PS

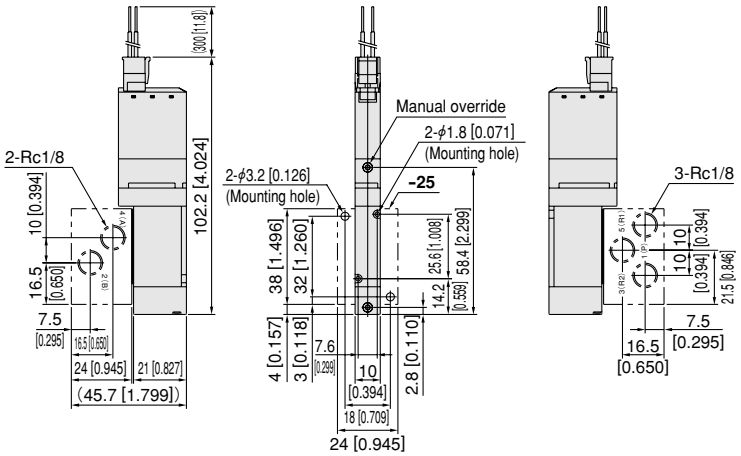
S type plug connector



5-port, double solenoid

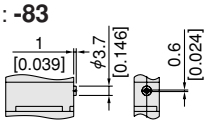
CS-JA10□A6-□-PS

S type plug connector

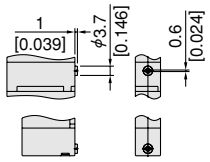


Options

●Locking protruding type manual override : **-83**



For single solenoid



For double solenoid

Dimensions of JA Series Solenoid Valve mm [in.]

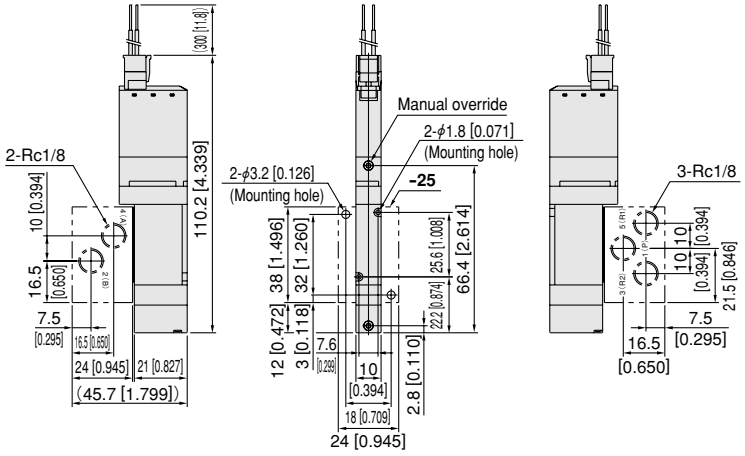
5-port, 3-position

CS-JA10□A7-□-PS

CS-JA10□A8-□-PS

CS-JA10□A9-□-PS

S type plug connector



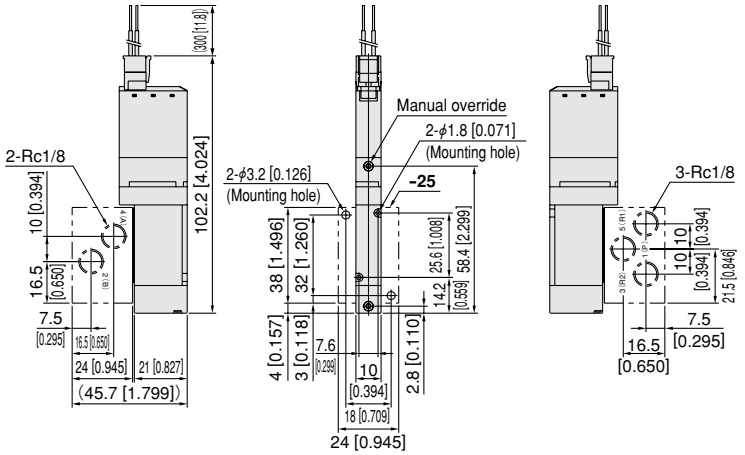
Tandem 3-port, 4-position

CS-JA10□AA-□-PS

CS-JA10□AB-□-PS

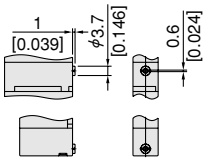
CS-JA10□AC-□-PS

S type plug connector



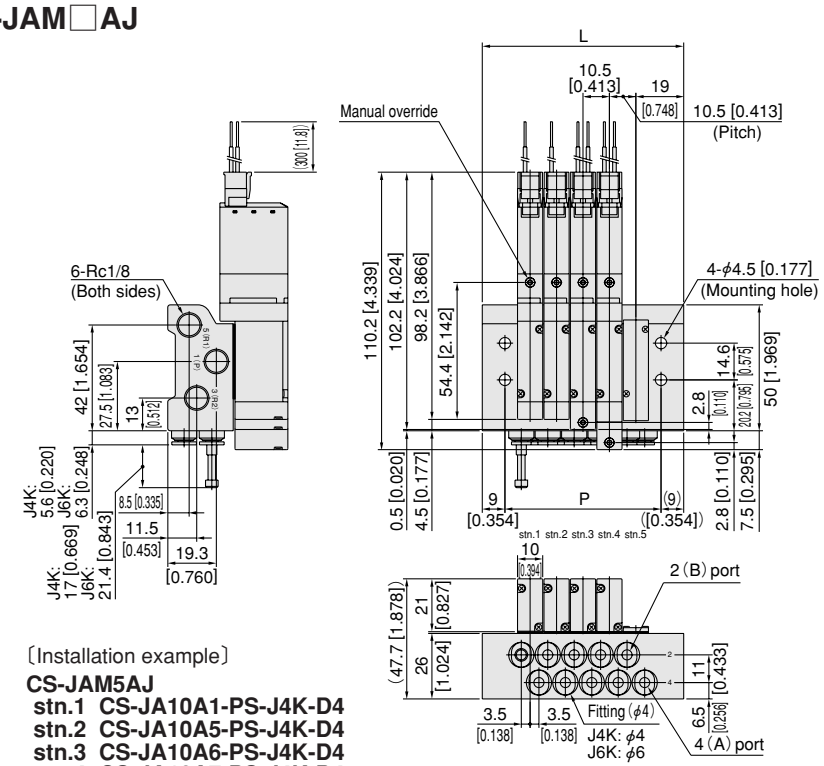
Option

●Locking protruding type manual override : **-83**



Dimensions of JA Series Monoblock Manifold mm [in.]

CS-JAM□AJ



〔Installation example〕

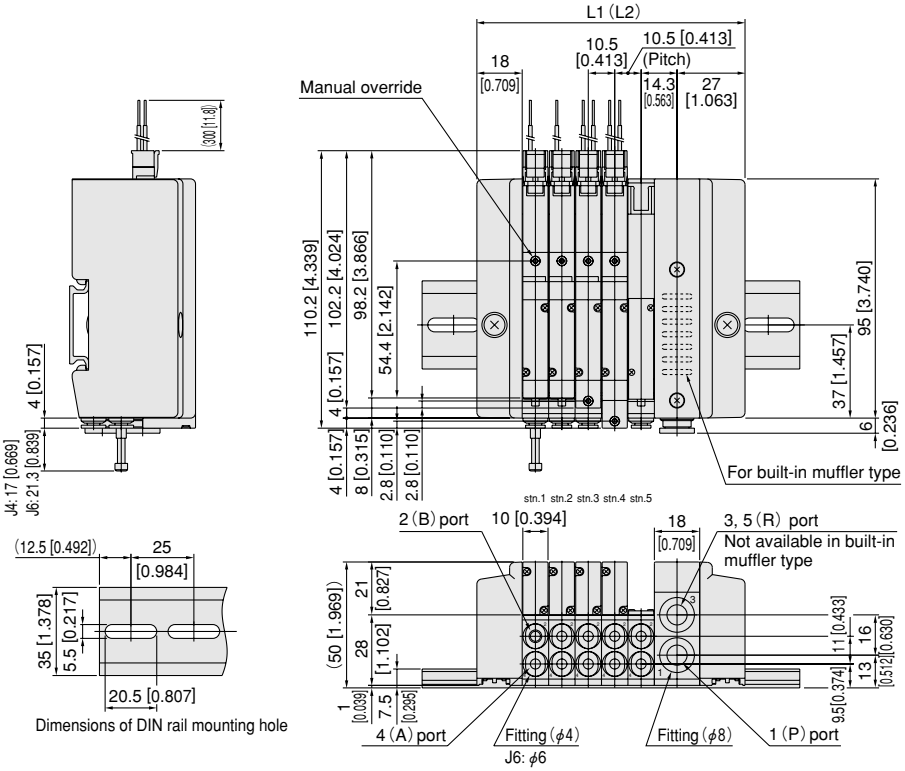
CS-JAM5AJ
stn.1 CS-JA10A1-PS-J4K-D4
stn.2 CS-JA10A5-PS-J4K-D4
stn.3 CS-JA10A6-PS-J4K-D4
stn.4 CS-JA10A7-PS-J4K-D4
stn.5 CS-JABP-J4K

Unit dimensions

No. of units	L	P
2	48.5 [1.909]	30.5 [1.201]
3	59.0 [2.323]	41.0 [1.614]
4	69.5 [2.736]	51.5 [2.028]
5	80.0 [3.150]	62.0 [2.441]
6	90.5 [3.563]	72.5 [2.854]
7	101.0 [3.976]	83.0 [3.268]
8	111.5 [4.390]	93.5 [3.681]
9	122.0 [4.803]	104.0 [4.094]
10	132.5 [5.217]	114.5 [4.508]
11	143.0 [5.630]	125.0 [4.921]
12	153.5 [6.043]	135.5 [5.335]
13	164.0 [6.457]	146.0 [5.748]
14	174.5 [6.870]	156.5 [6.161]
15	185.0 [7.283]	167.0 [6.575]
16	195.5 [7.697]	177.5 [6.988]
17	206.0 [8.110]	188.0 [7.402]
18	216.5 [8.524]	198.5 [7.815]
19	227.0 [8.937]	209.0 [8.228]
20	237.5 [9.350]	219.5 [8.642]

Dimensions of JA Series Split Manifold Non-Plug-in Type mm [in.]

CS-JAM□NJ



〔Installation example〕

CS-JAM5NJ-JR
stn.1 CS-JA10A1-PS-J4-D4
stn.2 CS-JA10A5-PS-J4-D4
stn.3 CS-JA10A6-PS-J4-D4
stn.4 CS-JA10A7-PS-J4-D4
stn.5 CS-JABP-J4

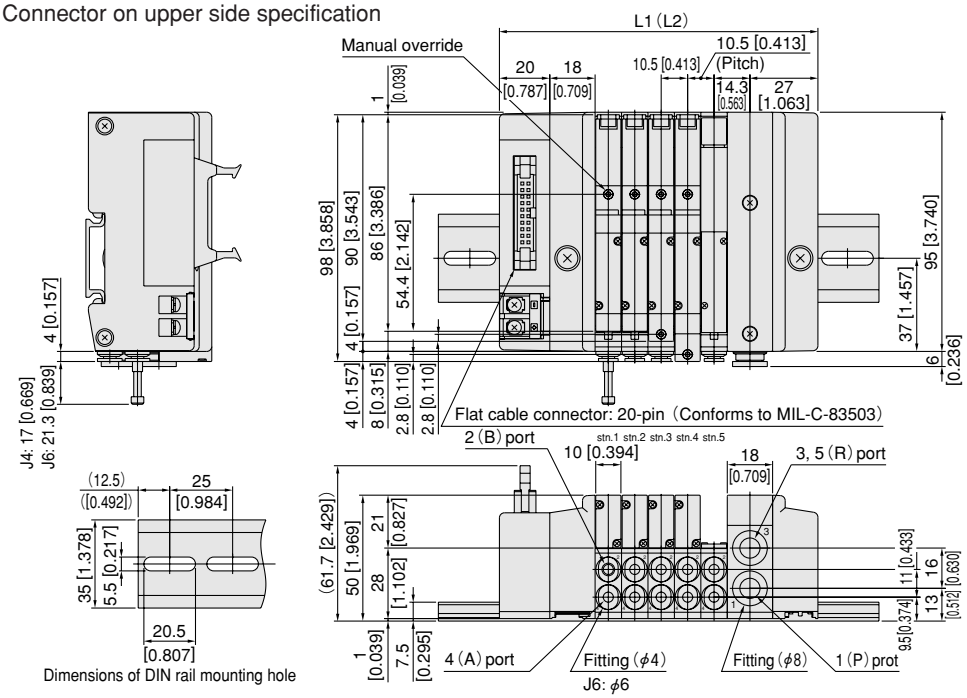
Unit dimensions

Number of units	L1	DIN rail length	L2[Note]	DIN rail length[Note]
2	75.0 [2.953]	125 [4.921]	93.0 [3.661]	125 [4.921]
3	85.5 [3.366]	125 [4.921]	103.5 [4.075]	150 [5.906]
4	96.0 [3.780]	125 [4.921]	114.0 [4.488]	150 [5.906]
5	106.5 [4.193]	150 [5.906]	124.5 [4.902]	175 [6.890]
6	117.0 [4.606]	150 [5.906]	135.0 [5.315]	175 [6.890]
7	127.5 [5.020]	175 [6.890]	145.5 [5.728]	175 [6.890]
8	138.0 [5.433]	175 [6.890]	156.0 [6.142]	200 [7.874]
9	148.5 [5.846]	200 [7.874]	166.5 [6.555]	200 [7.874]
10	159.0 [6.260]	200 [7.874]	177.0 [6.969]	225 [8.858]
11	169.5 [6.673]	200 [7.874]	187.5 [7.382]	225 [8.858]
12	180.0 [7.087]	225 [8.858]	198.0 [7.795]	250 [9.843]
13	190.5 [7.500]	225 [8.858]	208.5 [8.209]	250 [9.843]
14	201.0 [7.913]	250 [9.843]	219.0 [8.622]	250 [9.843]
15	211.5 [8.327]	250 [9.843]	229.5 [9.035]	275 [10.827]
16	222.0 [8.740]	275 [10.827]	240.0 [9.449]	275 [10.827]
17	232.5 [9.154]	275 [10.827]	250.5 [9.862]	300 [11.811]
18	243.0 [9.567]	275 [10.827]	261.0 [10.276]	300 [11.811]
19	253.5 [9.980]	300 [11.811]	271.5 [10.689]	325 [12.795]
20	264.0 [10.394]	300 [11.811]	282.0 [11.102]	325 [12.795]

Note : When using 2 piping blocks.

CS-JAM□PJ

Flat cable connector 20-pin
Connector on upper side specification



〔Installation example〕

CS-JAM5PJ-JR-F20□-D4
stn.1 CS-JA10A1-J4-D4
stn.2 CS-JA10A5-J4-D4
stn.3 CS-JA10A6-J4-D4
stn.4 CS-JA10A7-J4-D4
stn.5 CS-JABPP-J4

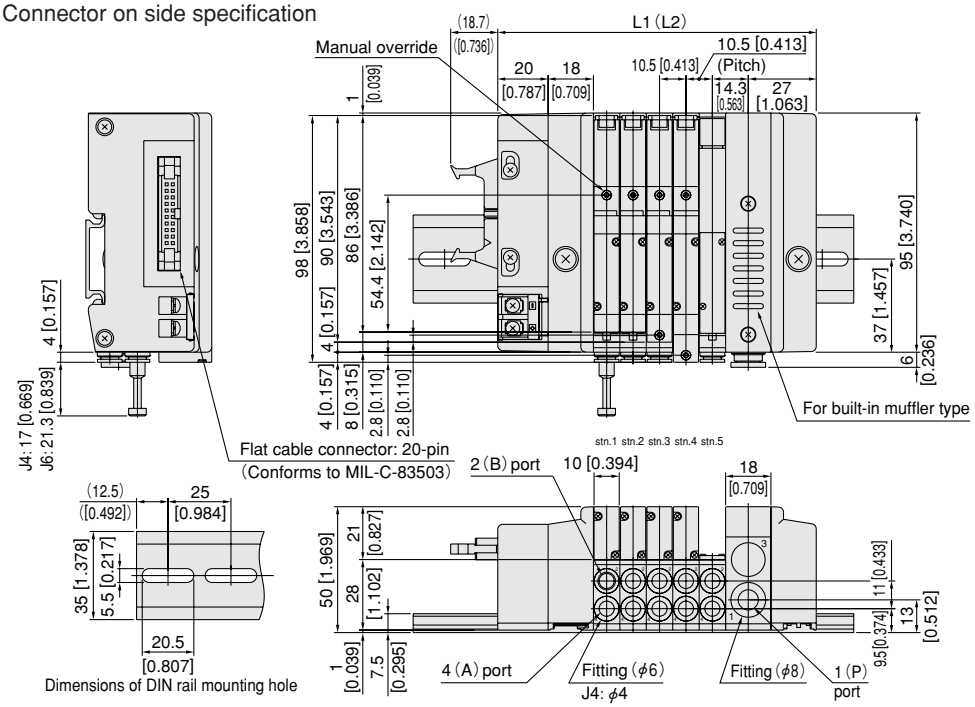
Unit dimensions

Number of units	L1	DIN rail length	L2[Note]	DIN rail length[Note]
2	95.0 [3.740]	150 [5.906]	113.0 [4.449]	175 [6.890]
3	105.5 [4.154]	175 [6.890]	123.5 [4.862]	175 [6.890]
4	116.0 [4.567]	175 [6.890]	134.0 [5.276]	200 [7.874]
5	126.5 [4.980]	175 [6.890]	144.5 [5.689]	200 [7.874]
6	137.0 [5.394]	200 [7.874]	155.0 [6.102]	200 [7.874]
7	147.5 [5.807]	200 [7.874]	165.5 [6.516]	225 [8.858]
8	158.0 [6.220]	225 [8.858]	176.0 [6.929]	225 [8.858]
9	168.5 [6.634]	225 [8.858]	186.5 [7.343]	250 [9.843]
10	179.0 [7.047]	225 [8.858]	197.0 [7.756]	250 [9.843]
11	189.5 [7.461]	250 [9.843]	207.5 [8.169]	275 [10.827]
12	200.0 [7.874]	250 [9.843]	218.0 [8.583]	275 [10.827]
13	210.5 [8.287]	275 [10.827]	228.5 [8.996]	275 [10.827]
14	221.0 [8.701]	275 [10.827]	239.0 [9.409]	300 [11.811]
15	231.5 [9.114]	300 [11.811]	249.5 [9.823]	300 [11.811]
16	242.0 [9.528]	300 [11.811]	260.0 [10.236]	325 [12.795]

Note : When using 2 piping blocks.

CS-JAM□PJ

Flat cable connector 20-pin
Connector on side specification



〔Installation example〕

CS-JAM5PJ-MR-F20□E-D4
stn.1 CS-JA10A1-J6-D4
stn.2 CS-JA10A5-J6-D4
stn.3 CS-JA10A6-J6-D4
stn.4 CS-JA10A7-J6-D4
stn.5 CS-JABPP-J6

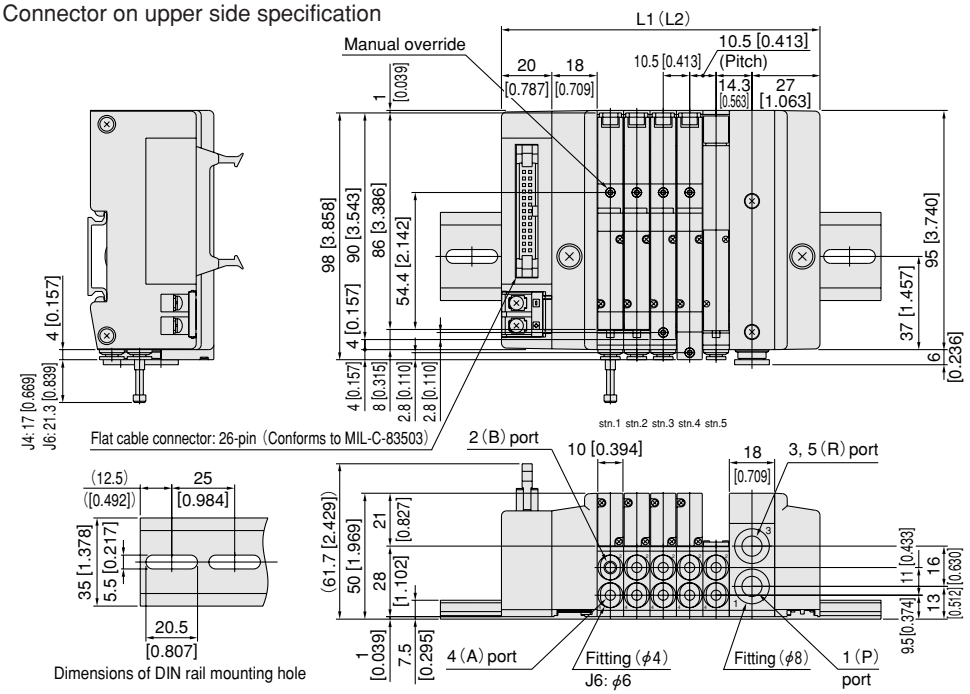
Unit dimensions

Number of units	L1	DIN rail length	L2[Note]	DIN rail length[Note]
2	95.0 [3.740]	150 [5.906]	113.0 [4.449]	175 [6.890]
3	105.5 [4.154]	175 [6.890]	123.5 [4.862]	175 [6.890]
4	116.0 [4.567]	175 [6.890]	134.0 [5.276]	200 [7.874]
5	126.5 [4.980]	175 [6.890]	144.5 [5.689]	200 [7.874]
6	137.0 [5.394]	200 [7.874]	155.0 [6.102]	200 [7.874]
7	147.5 [5.807]	200 [7.874]	165.5 [6.516]	225 [8.858]
8	158.0 [6.220]	225 [8.858]	176.0 [6.929]	225 [8.858]
9	168.5 [6.634]	225 [8.858]	186.5 [7.343]	250 [9.843]
10	179.0 [7.047]	225 [8.858]	197.0 [7.756]	250 [9.843]
11	189.5 [7.461]	250 [9.843]	207.5 [8.169]	275 [10.827]
12	200.0 [7.874]	250 [9.843]	218.0 [8.583]	275 [10.827]
13	210.5 [8.287]	275 [10.827]	228.5 [8.996]	275 [10.827]
14	221.0 [8.701]	275 [10.827]	239.0 [9.409]	300 [11.811]
15	231.5 [9.114]	300 [11.811]	249.5 [9.823]	300 [11.811]
16	242.0 [9.528]	300 [11.811]	260.0 [10.236]	325 [12.795]

Note : When using 2 piping blocks.

CS-JAM□PJ

Flat cable connector 26-pin
Connector on upper side specification



〔Installation example〕

CS-JAM5PJ-JR-F260-D4
stn.1 CS-JA10A1-J4-D4
stn.2 CS-JA10A5-J4-D4
stn.3 CS-JA10A6-J4-D4
stn.4 CS-JA10A7-J4-D4
stn.5 CS-JABPP-J4

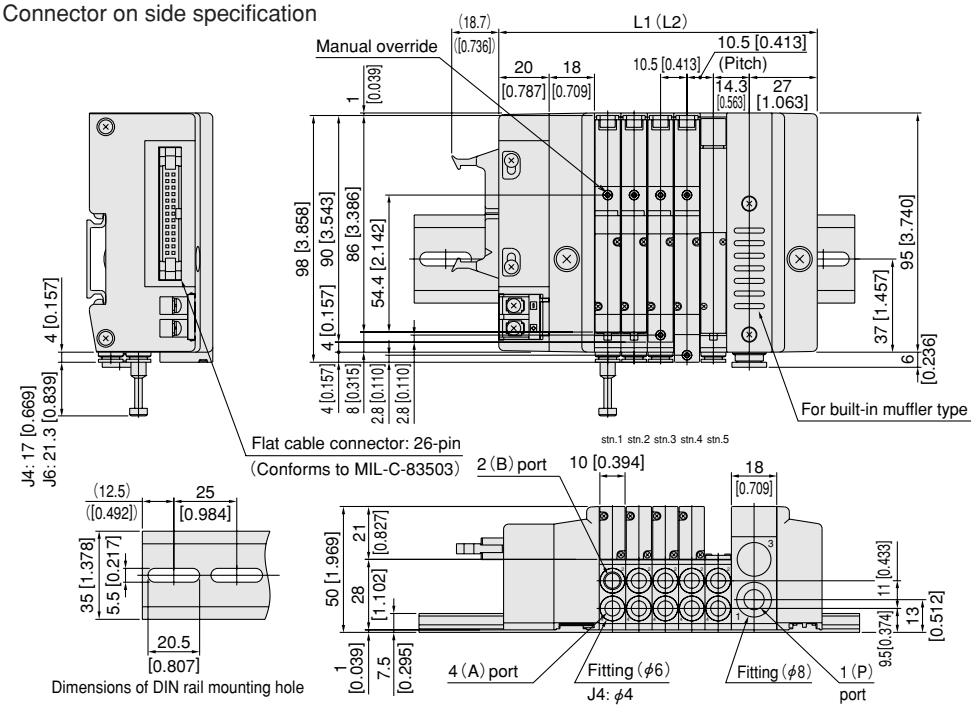
Unit dimensions

Number of units	L1	DIN rail length	L2[Note]	DIN rail length[Note]
2	95.0 [3.740]	150 [5.906]	113.0 [4.449]	175 [6.890]
3	105.5 [4.154]	175 [6.890]	123.5 [4.862]	175 [6.890]
4	116.0 [4.567]	175 [6.890]	134.0 [5.276]	200 [7.874]
5	126.5 [4.980]	175 [6.890]	144.5 [5.689]	200 [7.874]
6	137.0 [5.394]	200 [7.874]	155.0 [6.102]	200 [7.874]
7	147.5 [5.807]	200 [7.874]	165.5 [6.516]	225 [8.858]
8	158.0 [6.220]	225 [8.858]	176.0 [6.929]	225 [8.858]
9	168.5 [6.634]	225 [8.858]	186.5 [7.343]	250 [9.843]
10	179.0 [7.047]	225 [8.858]	197.0 [7.756]	250 [9.843]
11	189.5 [7.461]	250 [9.843]	207.5 [8.169]	275 [10.827]
12	200.0 [7.874]	250 [9.843]	218.0 [8.583]	275 [10.827]
13	210.5 [8.287]	275 [10.827]	228.5 [8.996]	275 [10.827]
14	221.0 [8.701]	275 [10.827]	239.0 [9.409]	300 [11.811]
15	231.5 [9.114]	300 [11.811]	249.5 [9.823]	300 [11.811]
16	242.0 [9.528]	300 [11.811]	260.0 [10.236]	325 [12.795]
17	252.5 [9.941]	300 [11.811]	270.5 [10.650]	325 [12.795]
18	263.0 [10.354]	325 [12.795]	281.0 [11.063]	350 [13.780]
19	273.5 [10.768]	325 [12.795]	291.5 [11.476]	350 [13.780]
20	284.0 [11.181]	350 [13.780]	302.0 [11.890]	350 [13.780]

Note : When using 2 piping blocks.

CS-JAM□PJ

Flat cable connector 26-pin
Connector on side specification



〔Installation example〕

CS-JAM5PJ-MR-F260E-D4
stn.1 CS-JA10A1-J6-D4
stn.2 CS-JA10A5-J6-D4
stn.3 CS-JA10A6-J6-D4
stn.4 CS-JA10A7-J6-D4
stn.5 CS-JABPP-J6

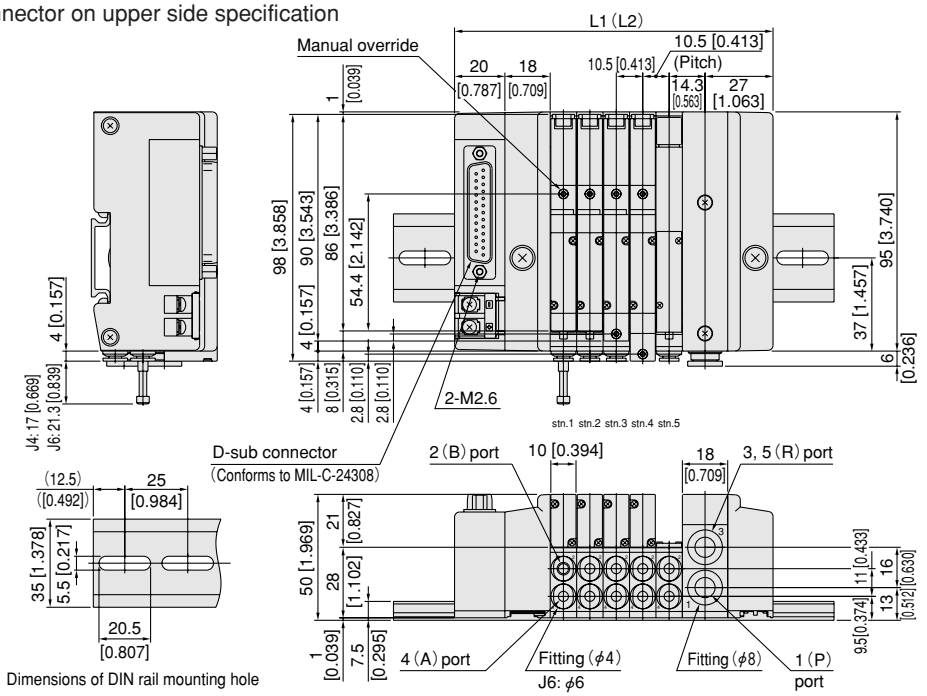
Unit dimensions

Number of units	L1	DIN rail length	L2[Note]	DIN rail length[Note]
2	95.0 [3.740]	150 [5.906]	113.0 [4.449]	175 [6.890]
3	105.5 [4.154]	175 [6.890]	123.5 [4.862]	175 [6.890]
4	116.0 [4.567]	175 [6.890]	134.0 [5.276]	200 [7.874]
5	126.5 [4.980]	175 [6.890]	144.5 [5.689]	200 [7.874]
6	137.0 [5.394]	200 [7.874]	155.0 [6.102]	200 [7.874]
7	147.5 [5.807]	200 [7.874]	165.5 [6.516]	225 [8.858]
8	158.0 [6.220]	225 [8.858]	176.0 [6.929]	225 [8.858]
9	168.5 [6.634]	225 [8.858]	186.5 [7.343]	250 [9.843]
10	179.0 [7.047]	225 [8.858]	197.0 [7.756]	250 [9.843]
11	189.5 [7.461]	250 [9.843]	207.5 [8.169]	275 [10.827]
12	200.0 [7.874]	250 [9.843]	218.0 [8.583]	275 [10.827]
13	210.5 [8.287]	275 [10.827]	228.5 [8.996]	275 [10.827]
14	221.0 [8.701]	275 [10.827]	239.0 [9.409]	300 [11.811]
15	231.5 [9.114]	300 [11.811]	249.5 [9.823]	300 [11.811]
16	242.0 [9.528]	300 [11.811]	260.0 [10.236]	325 [12.795]
17	252.5 [9.941]	300 [11.811]	270.5 [10.650]	325 [12.795]
18	263.0 [10.354]	325 [12.795]	281.0 [11.063]	350 [13.780]
19	273.5 [10.768]	325 [12.795]	291.5 [11.476]	350 [13.780]
20	284.0 [11.181]	350 [13.780]	302.0 [11.890]	350 [13.780]

Note : When using 2 piping blocks.

CS-JAM□PJ

D-sub connector 25-pin
Connector on upper side specification



〔Installation example〕

CS-JAM5PJ-JR-D25□-D4
stn.1 CS-JA10A1-J4-D4
stn.2 CS-JA10A5-J4-D4
stn.3 CS-JA10A6-J4-D4
stn.4 CS-JA10A7-J4-D4
stn.5 CS-JABPP-J4

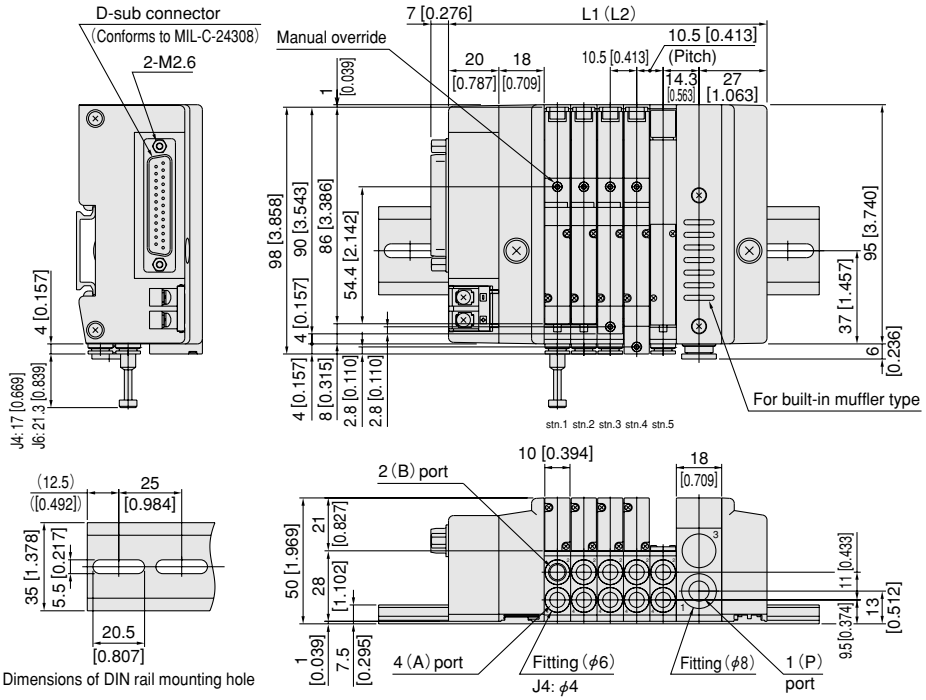
Unit dimensions

Number of units	L1	DIN rail length	L2[Note]	DIN rail length[Note]
2	95.0 [3.740]	150 [5.906]	113.0 [4.449]	175 [6.890]
3	105.5 [4.154]	175 [6.890]	123.5 [4.862]	175 [6.890]
4	116.0 [4.567]	175 [6.890]	134.0 [5.276]	200 [7.874]
5	126.5 [4.980]	175 [6.890]	144.5 [5.689]	200 [7.874]
6	137.0 [5.394]	200 [7.874]	155.0 [6.102]	200 [7.874]
7	147.5 [5.807]	200 [7.874]	165.5 [6.516]	225 [8.858]
8	158.0 [6.220]	225 [8.858]	176.0 [6.929]	225 [8.858]
9	168.5 [6.634]	225 [8.858]	186.5 [7.343]	250 [9.843]
10	179.0 [7.047]	225 [8.858]	197.0 [7.756]	250 [9.843]
11	189.5 [7.461]	250 [9.843]	207.5 [8.169]	275 [10.827]
12	200.0 [7.874]	250 [9.843]	218.0 [8.583]	275 [10.827]
13	210.5 [8.287]	275 [10.827]	228.5 [8.996]	275 [10.827]
14	221.0 [8.701]	275 [10.827]	239.0 [9.409]	300 [11.811]
15	231.5 [9.114]	300 [11.811]	249.5 [9.823]	300 [11.811]
16	242.0 [9.528]	300 [11.811]	260.0 [10.236]	325 [12.795]
17	252.5 [9.941]	300 [11.811]	270.5 [10.650]	325 [12.795]
18	263.0 [10.354]	325 [12.795]	281.0 [11.063]	350 [13.780]
19	273.5 [10.768]	325 [12.795]	291.5 [11.476]	350 [13.780]
20	284.0 [11.181]	350 [13.780]	302.0 [11.890]	350 [13.780]

Note : When using 2 piping blocks.

CS-JAM□PJ

D-sub connector 25-pin
Connector on side specification



〔Installation example〕

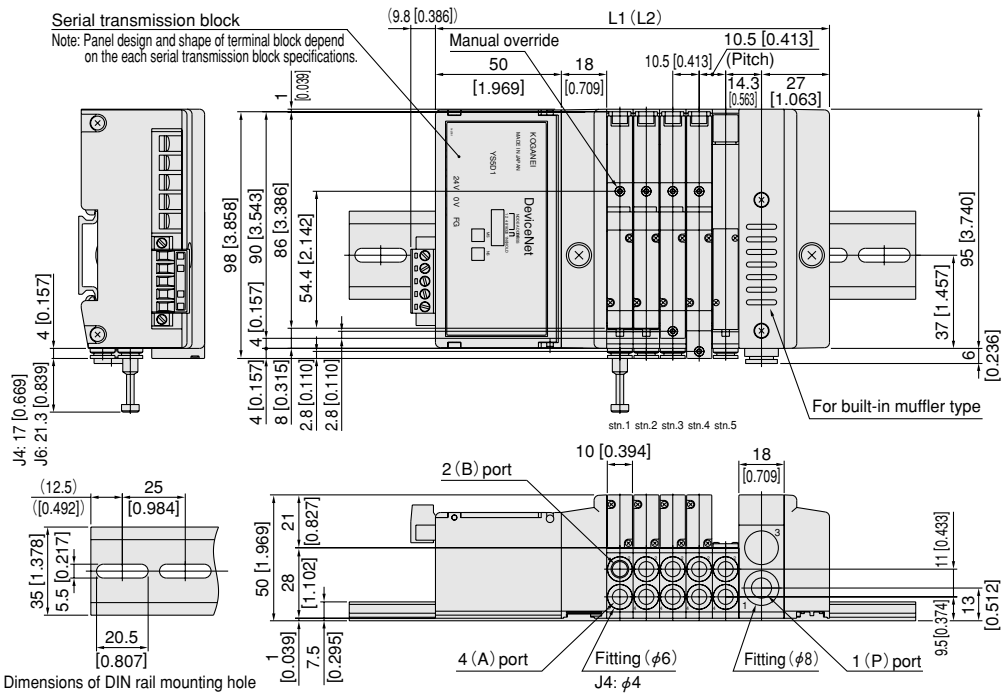
CS-JAM5PJ-MR-D25□E-D4
stn.1 CS-JA10A1-J6-D4
stn.2 CS-JA10A5-J6-D4
stn.3 CS-JA10A6-J6-D4
stn.4 CS-JA10A7-J6-D4
stn.5 CS-JABPP-J6

Unit dimensions

Number of units	L1	DIN rail length	L2[Note]	DIN rail length[Note]
2	95.0 [3.740]	150 [5.906]	113.0 [4.449]	175 [6.890]
3	105.5 [4.154]	175 [6.890]	123.5 [4.862]	175 [6.890]
4	116.0 [4.567]	175 [6.890]	134.0 [5.276]	200 [7.874]
5	126.5 [4.980]	175 [6.890]	144.5 [5.689]	200 [7.874]
6	137.0 [5.394]	200 [7.874]	155.0 [6.102]	200 [7.874]
7	147.5 [5.807]	200 [7.874]	165.5 [6.516]	225 [8.858]
8	158.0 [6.220]	225 [8.858]	176.0 [6.929]	225 [8.858]
9	168.5 [6.634]	225 [8.858]	186.5 [7.343]	250 [9.843]
10	179.0 [7.047]	225 [8.858]	197.0 [7.756]	250 [9.843]
11	189.5 [7.461]	250 [9.843]	207.5 [8.169]	275 [10.827]
12	200.0 [7.874]	250 [9.843]	218.0 [8.583]	275 [10.827]
13	210.5 [8.287]	275 [10.827]	228.5 [8.996]	275 [10.827]
14	221.0 [8.701]	275 [10.827]	239.0 [9.409]	300 [11.811]
15	231.5 [9.114]	300 [11.811]	249.5 [9.823]	300 [11.811]
16	242.0 [9.528]	300 [11.811]	260.0 [10.236]	325 [12.795]
17	252.5 [9.941]	300 [11.811]	270.5 [10.650]	325 [12.795]
18	263.0 [10.354]	325 [12.795]	281.0 [11.063]	350 [13.780]
19	273.5 [10.768]	325 [12.795]	291.5 [11.476]	350 [13.780]
20	284.0 [11.181]	350 [13.780]	302.0 [11.890]	350 [13.780]

Note : When using 2 piping blocks.

CS-JAM□SJ



〔Installation example〕

CS-JAM5SJ-MR-D1
stn.1 CS-JA10A1-J6-D4
stn.2 CS-JA10A5-J6-D4
stn.3 CS-JA10A6-J6-D4
stn.4 CS-JA10A7-J6-D4
stn.5 CS-JABPP-J6

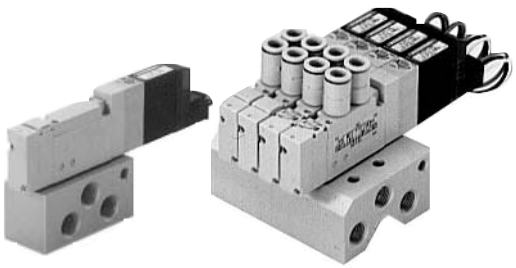
Unit dimensions

Number of units	L1	DIN rail length	L2[Note]	DIN rail length[Note]
2	125.0 [4.921]	175 [6.890]	143.0 [5.630]	200 [7.874]
3	135.5 [5.335]	200 [7.874]	153.5 [6.043]	200 [7.874]
4	146.0 [5.748]	200 [7.874]	164.0 [6.457]	225 [8.858]
5	156.5 [6.161]	225 [8.858]	174.5 [6.870]	225 [8.858]
6	167.0 [6.575]	225 [8.858]	185.0 [7.283]	250 [9.843]
7	177.5 [6.988]	225 [8.858]	195.5 [7.697]	250 [9.843]
8	188.0 [7.402]	250 [9.843]	206.0 [8.110]	275 [10.827]
9	198.5 [7.815]	250 [9.843]	216.5 [8.524]	275 [10.827]
10	209.0 [8.228]	275 [10.827]	227.0 [8.937]	275 [10.827]
11	219.5 [8.642]	275 [10.827]	237.5 [9.350]	300 [11.811]
12	230.0 [9.055]	275 [10.827]	248.0 [9.764]	300 [11.811]
13	240.5 [9.469]	300 [11.811]	258.5 [10.177]	325 [12.795]
14	251.0 [9.882]	300 [11.811]	269.0 [10.591]	325 [12.795]
15	261.5 [10.295]	325 [12.795]	279.5 [11.004]	325 [12.795]
16	272.0 [10.709]	325 [12.795]	290.0 [11.417]	350 [13.780]

Note : When using 2 piping blocks.

KOGANEI CLEAN SYSTEM

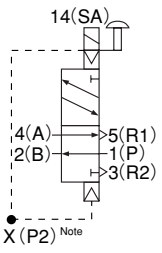
SOLENOID VALVES
F10 SERIES



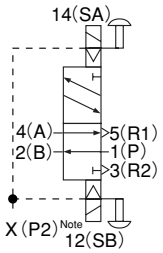
Symbols

5-port, 2-position

When set as a single solenoid



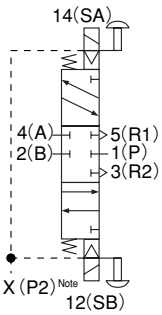
When set as a double solenoid



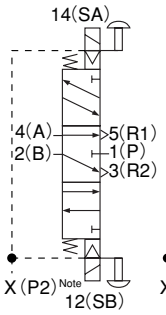
Note: For external pilot type.

5-port, 3-position (Both SA and SB are de-energized)

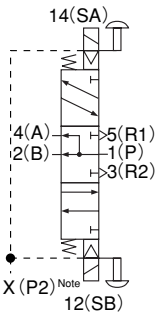
Closed center



Exhaust center



Pressure center



Specifications

Item \ Basic model		CS-F10T1	CS-F10T3 CS-F10T4 CS-F10T5	CS-F10T1G	CS-F10T3G CS-F10T4G CS-F10T5G	CS-F10T1V	CS-F10T3V CS-F10T4V CS-F10T5V
Media		Air					
Operation type		Internal pilot type		External pilot type (for positive pressure)		External pilot type (for vacuum)	
Effective area〔CV〕	mm²	5〔0.28〕	4.5〔0.25〕	5〔0.28〕	4.5〔0.25〕	5〔0.28〕	4.5〔0.25〕
Port size		M5× 0.8, fittings for ϕ4 and ϕ6, Rc1/8					
Lubrication		Not required					
Operating pressure range	Main valve	0.2～0.7MPa [29～102psi.]		0～0.7MPa [0～102psi.]Note1		–100kPa～0.15MPa [–29.53in.Hg～22psi.]	
	External pilot	——		0.2～0.7MPa [29～102psi.]Note1		0.2～0.7MPa [29～102psi.]	
Proof pressure	MPa [psi.]	1.05 [152]					
Response time Note2 ON/OFF time	ms DC12V, DC24V	15/20 or below	15/25 or below	15/20 or below	15/25 or below	15/20 or below	15/25 or below
	ms AC100V	15/20 or below	15/25 or below	15/20 or below	15/25 or below	15/20 or below	15/25 or below
Maximum operating frequency	Hz	5					
Minimum time to energize for self holding Note3	ms	50	——	50	——	50	——
Operating temperature range (atmosphere and media)	°C [°F]	5～50 [41～122]					
Shock resistance	m/s² {G}	1373 {140.0} (Axial direction 294.2 {30.0})	294.2 {30.0}	1373 {140.0} (Axial direction 294.2 {30.0})	294.2 {30.0}	1373 {140.0} (Axial direction 294.2 {30.0})	294.2 {30.0}
Mounting direction		Any					

Notes: 1. When the main valve pressure is 0.2～0.7MPa [29～102psi.], set the external pilot pressure to the main valve pressure or higher, and 0.7MPa [102psi.] or less.
2. Values when air pressure is 0.5MPa [73psi.]. The values for 2-position valves are when used as a single solenoid, and the values for 3-position valves are those when switching from the neutral position of closed center.
3. When used as a double solenoid valve.

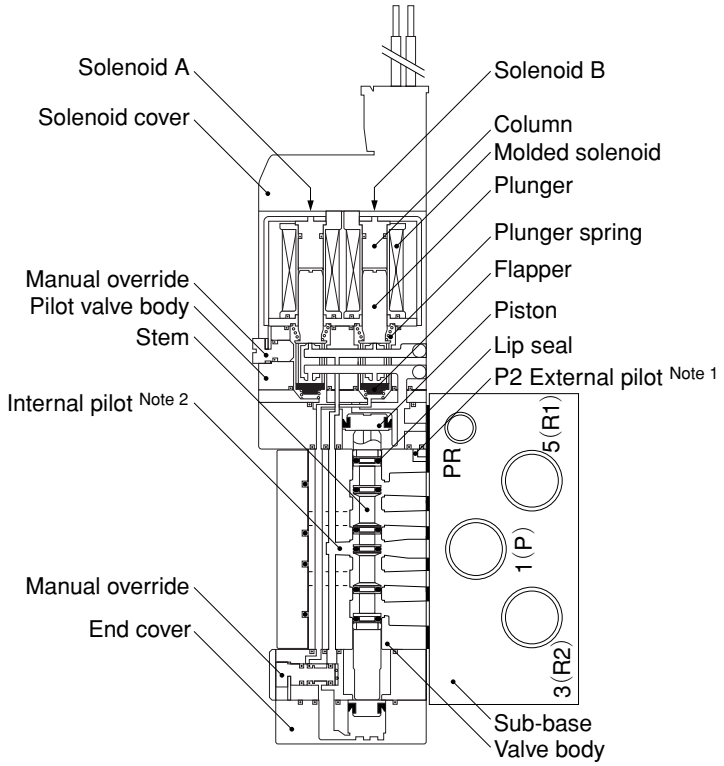
Solenoid Specifications

Item \ Rated voltage		DC12V	DC24V	AC100V	
Voltage range	V	10.8～13.2 (12±10%)	21.6～26.4 (24±10%)	90～110 (100±10%)	
Rated frequency	Hz	——	——	50	60
Current (when rated voltage is applied)	mA (r.m.s) Starting	——	——	10Note1	10Note1
	Energizing	76	38	10Note1	10Note1
Power consumption	W	0.9	0.9	1.0VA	
Allowable leakage current	mA	4.0	2.0	2.0	
Insulation resistance Note 2	MΩ	Over 100			
Color of LED indicator		14(SA)：Red, 12(SB)：Green	14(SA)：Red, 12(SB)：Green	14(SA)：Red, 12(SB)：Green	
Surge suppression (as standard)		Flywheel diode		Bridge diode	

Notes: 1. Since the AC types have built-in bridge diodes, the starting current and energizing current value are virtually the same.
2. Value at DC500V megger.

Inner Construction and Major Parts

●CS-F10T1-A1



Notes: 1. For external pilot type
2. Not available with external pilot type

Major Parts and Materials

Parts			Materials
Valve	Body		Aluminum die-casting
	Stem		Aluminum alloy
	Lip seal		Synthetic rubber
	Flapper		
	Sub-base		Aluminum alloy (anodized)
	Plunger		Magnetic stainless steel
	Column		
	End cover		Plastic
Manifold	Body	Monoblock	Aluminum alloy (anodized)
	Block-off plate		Mild steel (nickel plated)
	Seal		Synthetic rubber

Order Codes

CS-F10 - □ - □ - □ - □ - □

Clean system F10 series valve basic model		Pilot specification			Manual override		Valve outlet type Note 3				
		Internal pilot	External pilot (positive pressure)	External pilot (vacuum)	Manual override button	Manual override lever (made to order) Note 1	Without inlet/outlet block	With A type outlet plate	With A type sub-base	With outlet port fitting block	With outlet port female thread block
●For sub-base-mounted units (cannot be used for units without sub-base) ●For A type manifold ●For F type manifold	**CS-F10T1** 2-position (Both single and double solenoid use)	**Blank**	**G**	**V**	**Blank**	**-R** Note 1	**Blank** Note 2	**-A1** Note 2	**-A2**	**-FJ** Note 2	**-FM** Note 2
	CS-F10T3 3-position (Closed center)										
	CS-F10T4 3-position (Exhaust center)										
	CS-F10T5 3-position (Pressure center)										

Notes: 1. The manual override lever is made to order. Consult us for delivery. When the valve specification is T1, the manual override lever is available for the A side only.
2. Two manifold mounting screws are included.
3. For the outlet port size, see the table at right.

Monoblock Manifold A type (Base Piping Type) Order Codes

CS-F10M □ □ ⋮ □ □ ⋮

Clean system F10 series manifold basic model	Number of units		Manifold outlet specification		Pilot specification		Station Note 1	Valve size	Valve specification	Pilot specification
			With fitting block: ϕ4, ϕ6	With female thread block: M5×0.8	Internal pilot	External pilot				
CS-F10M	**2** : 2 units **3** : 3 units ⋮ **20** : 20 units	**A**	**J**	**M**	**Blank**	**G**	**stn.1** : First **stn.2** : Second **stn.3** : Third ⋮ **stn.20** : 20th	**CS-F10**	**T1:** 2-position, single solenoid specification **T2:** 2-position, double solenoid specification Note 2 **T3:** 3-position, closed center **T4:** 3-position, exhaust center **T5:** 3-position, pressure center	**Blank** **G** **V**

Notes: 1. Valve mounting location is from the left, with the solenoid on top and the valve in front.
2. This is a special model when ordering manifolds. If ordering valves only for repairs, etc., order CS-F□T1, and switch to the double solenoid specification for use.
3. The manual override lever is made to order. Consult us for delivery. When the valve specification is T1 or T2, the manual override lever is available for the A side only.
4. Always enter -A1.

Monoblock Manifold F type (Direct Piping Type) Order Codes

CS-F10M □ □ ⋮ □ □ ⋮

Clean system F10 series manifold basic model	Number of units		Station Note 1	Valve size	Valve specification	Manual override	Valve outlet type	
							With outlet port fitting block	With outlet port female thread block
CS-F10M	**2** : 2 units **3** : 3 units ⋮ **20** : 20 units	**F**	**stn.1** : First **stn.2** : Second **stn.3** : Third ⋮ **stn.20** : 20th	**CS-F10**	**T1:** 2-position, single solenoid specification **T2:** 2-position, double solenoid specification Note 2 **T3:** 3-position, closed center **T4:** 3-position, exhaust center **T5:** 3-position, pressure center	**Blank** **-R** Note 3	**-FJ**	**-FM**

Notes: 1. Valve mounting location is from the left, with the solenoid on top and the valve in front.
2. This is a special model when ordering manifolds. If ordering valves only for repairs, etc., order CS-F□T1, and switch to the double solenoid specification for use.
3. The manual override lever is made to order. Consult us for delivery. When the valve specification is T1 or T2, the manual override lever is available for the A side only.

	Wiring specification						Voltage
	L type plug connector			S type plug connector			
	Without connector	Lead wire		Without connector	Lead wire		
		300mm [11.8in.]	3000mm [118in.]		300mm [11.8in.]	3000mm [118in.]	
	Blank	**-PL**	**-PL3**	**-PN**	**-PS**	**-PS3**	**DC24V** **DC12V** **AC100V**

Valve outlet type (code)	Outlet port size
-A2	Rc1/8
-FJ	ϕ4, ϕ6
-FM	M5×0.8

	Manual override	Valve outlet type	Wiring specification										Voltage
			L type connector					S type connector					
			Without connector	Lead wire		Pre-wired positive common terminal		Without connector	Lead wire		Pre-wired positive common terminal		
				300mm [11.8in.]	3000mm [118in.]	Lead wire 300mm [11.8in.]	Lead wire 3000mm [118in.]		300mm [11.8in.]	3000mm [118in.]	Lead wire 300mm [11.8in.]	Lead wire 3000mm [118in.]	
	Blank **-R**Note 3	**-A1**Note 4	**Blank**	**-PL**	**-PL3**	**-CPL**	**-CPL3**	**-PN**	**-PS**	**-PS3**	**-CPS**	**-CPS3**	**DC24V** **DC12V** **AC100V**
	CS-F Valve size **BP** (for block-off plate)												

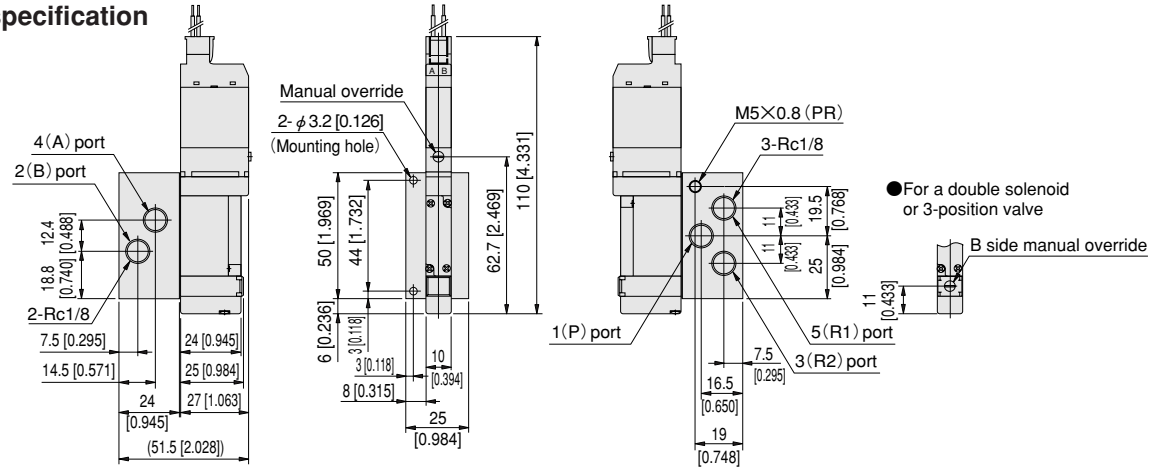
	Wiring specification										Voltage
	L type connector					S type connector					
	Without connector	Lead wire		Pre-wired positive common terminal		Without connector	Lead wire		Pre-wired positive common terminal		
		300mm [11.8in.]	3000mm [118in.]	Lead wire 300mm [11.8in.]	Lead wire 3000mm [118in.]		300mm [11.8in.]	3000mm [118in.]	Lead wire 300mm [11.8in.]	Lead wire 3000mm [118in.]	
	Blank	**-PL**	**-PL3**	**-CPL**	**-CPL3**	**-PN**	**-PS**	**-PS3**	**-CPS**	**-CPS3**	**DC24V** **DC12V** **AC100V**
	CS-F Valve size **BP** (for block-off plate)										

Dimensions of Single Valve Unit mm [in.]

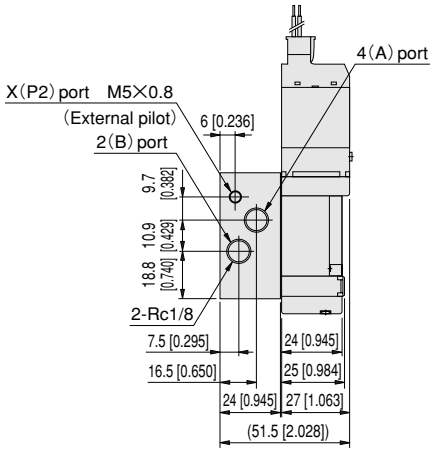
CS-F10T | **Valve specification** | **Operation type** | **-A2-PS**

With an A type sub-base
S type plug connector

●Internal pilot specification

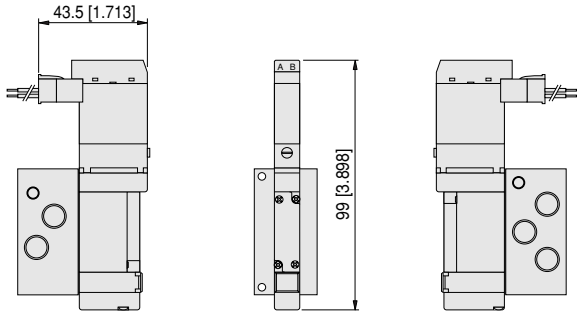


●External pilot specification



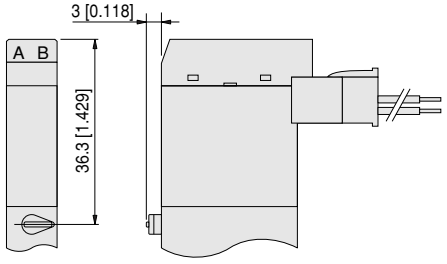
●Option

●L type plug connector : **-PL**



●Made to Order

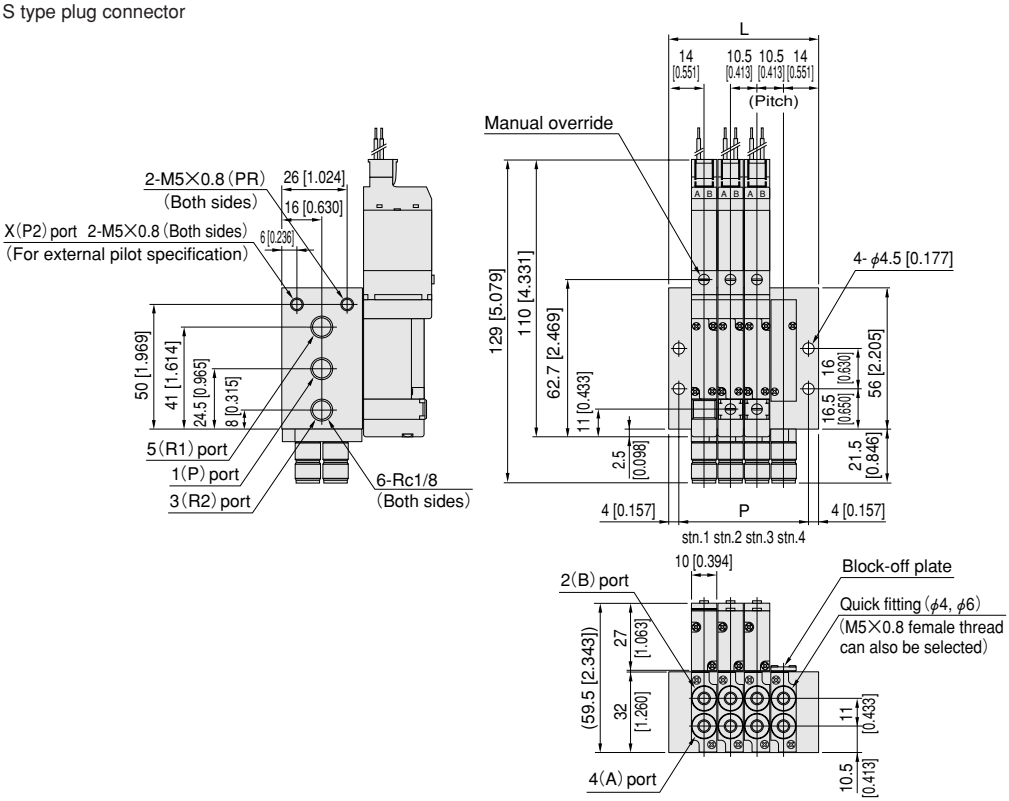
● Manual override lever



Dimensions of Monoblock Manifold A Type, F Type mm [in.]

CS-F10M Number of units A J/M Pilot specification (base piping type)

Monoblock manifold A type
Manifold with outlet port different size fitting blocks
S type plug connector

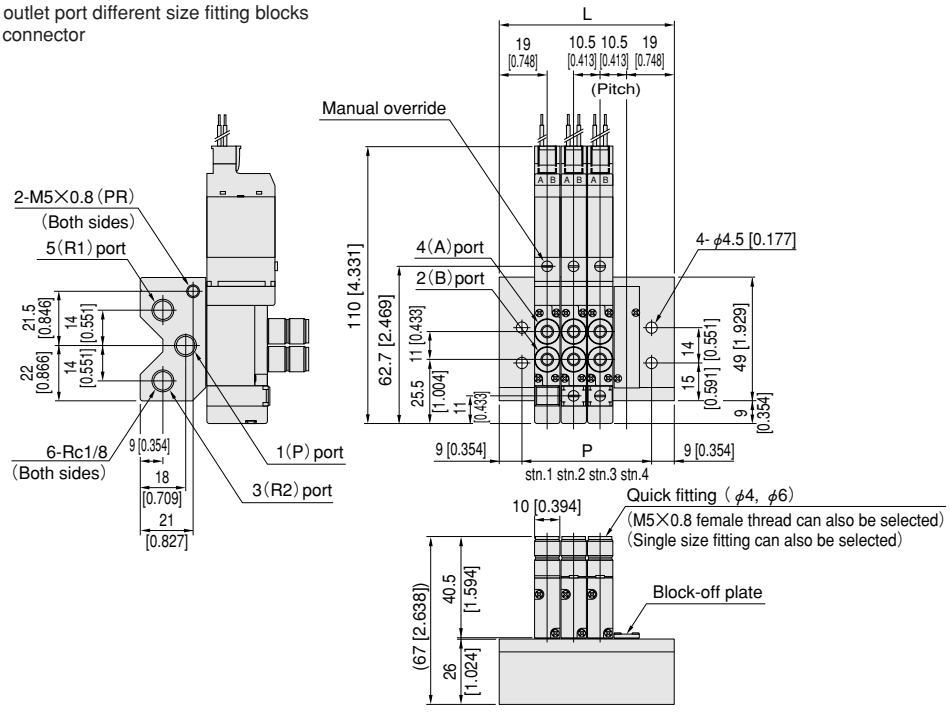


Unit dimensions

No. of units	L	P
2	38.5 [1.516]	30.5 [1.201]
3	49.0 [1.929]	41.0 [1.614]
4	59.5 [2.343]	51.5 [2.028]
5	70.0 [2.756]	62.0 [2.441]
6	80.5 [3.169]	72.5 [2.854]
7	91.0 [3.583]	83.0 [3.268]
8	101.5 [3.996]	93.5 [3.681]
9	112.0 [4.409]	104.0 [4.094]
10	122.5 [4.823]	114.5 [4.508]
11	133.0 [5.236]	125.0 [4.921]
12	143.5 [5.650]	135.5 [5.335]
13	154.0 [6.063]	146.0 [5.748]
14	164.5 [6.476]	156.5 [6.161]
15	175.0 [6.890]	167.0 [6.575]
16	185.5 [7.303]	177.5 [6.988]
17	196.0 [7.717]	188.0 [7.402]
18	206.5 [8.130]	198.5 [7.815]
19	217.0 [8.543]	209.0 [8.228]
20	227.5 [8.957]	219.5 [8.642]

CS-F10M Number of units F (direct piping type)

Monoblock manifold F type
Valves with outlet port different size fitting blocks
S type plug connector



Unit dimensions

No. of units	L	P
2	48.5 [1.909]	30.5 [1.201]
3	59.0 [2.323]	41.0 [1.614]
4	69.5 [2.736]	51.5 [2.028]
5	80.0 [3.150]	62.0 [2.441]
6	90.5 [3.563]	72.5 [2.854]
7	101.0 [3.976]	83.0 [3.268]
8	111.5 [4.390]	93.5 [3.681]
9	122.0 [4.803]	104.0 [4.094]
10	132.5 [5.217]	114.5 [4.508]
11	143.0 [5.630]	125.0 [4.921]
12	153.5 [6.043]	135.5 [5.335]
13	164.0 [6.457]	146.0 [5.748]
14	174.5 [6.870]	156.5 [6.161]
15	185.0 [7.283]	167.0 [6.575]
16	195.5 [7.697]	177.5 [6.988]
17	206.0 [8.110]	188.0 [7.402]
18	216.5 [8.524]	198.5 [7.815]
19	227.0 [8.937]	209.0 [8.228]
20	237.5 [9.350]	219.5 [8.642]

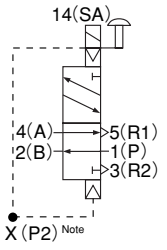
KOGANEI CLEAN SYSTEM

SOLENOID VALVES
F15 SERIES

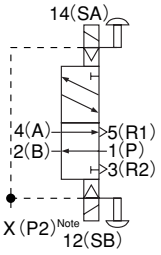
Symbols

5-port, 2-position

When set as a single solenoid



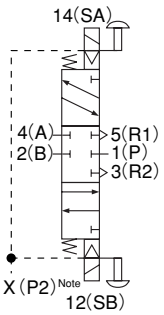
When set as a double solenoid



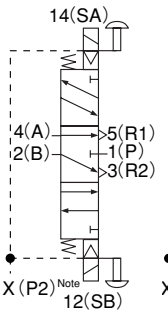
Note: For external pilot type.

5-port, 3-position (Both SA and SB are de-energized)

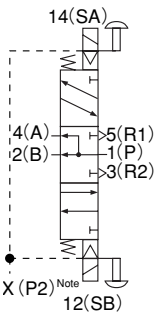
Closed center



Exhaust center



Pressure center



Specifications

Item \ Basic model		CS-F15T1	CS-F15T3 CS-F15T4 CS-F15T5	CS-F15T1G	CS-F15T3G CS-F15T4G CS-F15T5G	CS-F15T1V	CS-F15T3V CS-F15T4V CS-F15T5V
Media		Air					
Operation type		Internal pilot type		External pilot type (for positive pressure)		External pilot type (for vacuum)	
Effective area〔CV〕	mm²	10〔0.56〕					
Port size		Fitting for ϕ6 and ϕ8, Rc1/8		M5×0.8, Fitting for ϕ6 and ϕ8, Rc1/8			
Lubrication		Not required					
Operating pressure range	Main valve	0.15～0.7MPa [22～102psi.]		0～0.7MPa [0～102psi.] Note1		–100kPa～0.15MPa [–29.53in.Hg～22psi.]	
	External pilot	——		0.2～0.7MPa [29～102psi.] Note1		0.2～0.7MPa [29～102psi.]	
Proof pressure	MPa [psi.]	1.05 [152]					
Response time Note2 ON/OFF time	ms DC12V, DC24V	20/30 or below	15/50 or below	20/30 or below	15/50 or below	20/30 or below	15/50 or below
	ms AC100V	20/30 or below	15/50 or below	20/30 or below	15/50 or below	20/30 or below	15/50 or below
Maximum operating frequency	Hz	5					
Minimum time to energize for self holding Note3	ms	50	——	50	——	50	——
Operating temperature range (atmosphere and media)	°C [°F]	5～50 [41～122]					
Shock resistance	m/s² {G}	1373 {140.0} (Axial direction 294.2 {30.0})	294.2 {30.0}	1373 {140.0} (Axial direction 294.2 {30.0})	294.2 {30.0}	1373 {140.0} (Axial direction 294.2 {30.0})	294.2 {30.0}
Mounting direction		Any					

Notes: 1. When the main valve pressure is 0.2～0.7MPa [29～102psi.], set the external pilot pressure to the main valve pressure or higher, and to 0.7MPa [102psi.] or less.
2. Values when air pressure is 0.5MPa [73psi.]. The values for 2-position valves are when used as a single solenoid, and the values for 3-position valves are those when switching from the neutral position of closed center.
3. When used as a double solenoid valve.

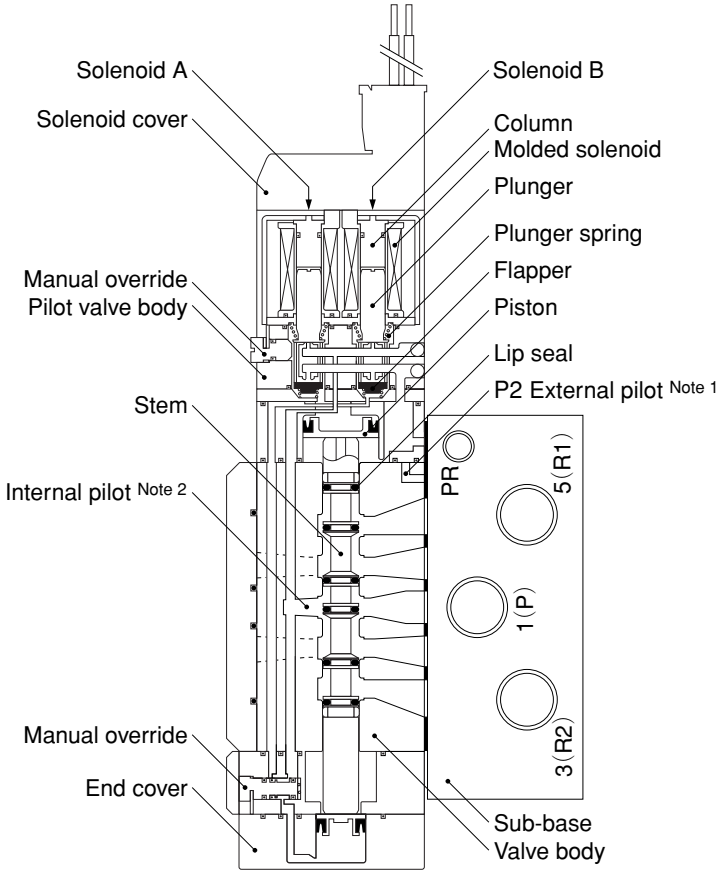
Solenoid Specifications

Item \ Rated voltage		DC12V	DC24V	AC100V	
Voltage range	V	10.8～13.2 (12±10%)	21.6～26.4 (24±10%)	90～110 (100±10%)	
Rated frequency	Hz	——	——	50	60
Current (when rated voltage is applied)	mA (r.m.s) Starting	——	——	10 Note 1	10 Note 1
	Energizing	76	38	10 Note 1	10 Note 1
Power consumption	W	0.9	0.9	1.0VA	
Allowable leakage current	mA	4.0	2.0	2.0	
Insulation resistance Note 2	MΩ	Over 100			
Color of LED indicator		14(SA)：Red, 12(SB)：Green	14(SA)：Red, 12(SB)：Green	14(SA)：Red, 12(SB)：Green	
Surge suppression (as standard)		Flywheel diode		Bridge diode	

Notes: 1. Since the AC types have built-in bridge diodes, the starting current and energizing current value are virtually the same.
2. Value at DC500V megger.

Inner Construction and Major Parts

●CS-F15T1-A1



Major Parts and Materials

Parts			Materials
Valve	Body		Aluminum die-casting
	Stem		Aluminum alloy
	Lip seal		Synthetic rubber
	Flapper		
	Sub-base		Aluminum alloy (anodized)
	Plunger		Magnetic stainless steel
	Column		
	End cover		Plastic
Manifold	Body	Monoblock	Aluminum alloy (anodized)
	Block-off plate		Mild steel (nickel plated)
	Seal		Synthetic rubber

Notes: 1. For external pilot type
2. Not available with external pilot type

Order Codes

CS-F15 - □ - □ - □ - □ - □

Clean system F15 series valve basic model		Pilot specification			Manual override		Valve outlet type Note 3				
		Internal pilot	External pilot (positive pressure)	External pilot (vacuum)	Manual override button	Manual override lever (made to order) Note 1	Without inlet/outlet block	With A type outlet plate	With A type sub-base	With outlet port fitting block	With outlet port female thread block
●For sub-base-mounted units (cannot be used for units without sub-base) ●For A type manifold ●For F type manifold	**CS-F15T1** 2-position (Both single and double solenoid use)	**Blank**	**G**	**V**	**Blank**	**-R** Note 1	**Blank** Note 2	**-A1** Note 2	**-A2**	**-FJ** Note 2	**-FM** Note 2
	CS-F15T3 3-position (Closed center)										
	CS-F15T4 3-position (Exhaust center)										
	CS-F15T5 3-position (Pressure center)										

Notes: 1. The manual override lever is made to order. Consult us for delivery. When the valve specification is T1, the manual override lever is available for the A side only.
2. Two manifold mounting screws are included.
3. For the outlet port size, see the table at right.

Monoblock Manifold A type (Base Piping Type) Order Codes

CS-F15M □ □ □ □ ⋮ □ □ ⋮ □

Clean system F15 series manifold basic model	Number of units		Manifold outlet specification		Pilot specification		Station Note 1	Valve size	Valve specification	Pilot specification
			With fitting block: ϕ6, ϕ8	With female thread block: Rc1/8	Internal pilot	External pilot				
CS-F15M	**2** : 2 units **3** : 3 units ⋮ **20** : 20 units	**A**	**J**	**M**	**Blank**	**G**	**stn.1** : First **stn.2** : Second **stn.3** : Third ⋮ **stn.20** : 20th	**CS-F15**	**T1:** 2-position, single solenoid specification **T2:** 2-position, double solenoid specification Note 2 **T3:** 3-position, closed center **T4:** 3-position, exhaust center **T5:** 3-position, pressure center	**Blank** **G** **V**

Notes: 1. Valve mounting location is from the left, with the solenoid on top and the valve in front.
2. This is a special model when ordering manifolds. If ordering valves only for repairs, etc., order CS-F□T1, and switch to the double solenoid specification for use.
3. The manual override lever is made to order. Consult us for delivery. When the valve specification is T1 or T2, the manual override lever is available for the A side only.
4. Always enter -A1.

Monoblock Manifold F type (Direct Piping Type) Order Codes

CS-F15M □ □ □ □ ⋮ □ □ ⋮ □

Clean system F15 series manifold basic model	Number of units		Station Note 1	Valve size	Valve specification	Manual override	Valve outlet type	
							With outlet port fitting block	With outlet port female thread block
CS-F15M	**2** : 2 units **3** : 3 units ⋮ **20** : 20 units	**F**	**stn.1** : First **stn.2** : Second **stn.3** : Third ⋮ **stn.20** : 20th	**CS-F15**	**T1:** 2-position, single solenoid specification **T2:** 2-position, double solenoid specification Note 2 **T3:** 3-position, closed center **T4:** 3-position, exhaust center **T5:** 3-position, pressure center	**Blank** **-R** Note 3	**-FJ**	**-FM**

Notes: 1. Valve mounting location is from the left, with the solenoid on top and the valve in front.
2. This is a special model when ordering manifolds. If ordering valves only for repairs, etc., order CS-F□T1, and switch to the double solenoid specification for use.
3. The manual override lever is made to order. Consult us for delivery. When the valve specification is T1 or T2, the manual override lever is available for the A side only.

	Wiring specification						Voltage
	L type plug connector			S type plug connector			
	Without connector	Lead wire		Without connector	Lead wire		
		300mm [11.8in.]	3000mm [118in.]		300mm [11.8in.]	3000mm [118in.]	
	Blank	**-PL**	**-PL3**	**-PN**	**-PS**	**-PS3**	**DC24V** **DC12V** **AC100V**

Valve outlet type (code)	Outlet port size
-A2	Rc1/8
-FJ	ϕ6, ϕ8
-FM	Rc1/8

	Manual override	Valve outlet type	Wiring specification										Voltage
			L type connector					S type connector					
			Without connector	Lead wire		Pre-wired positive common terminal		Without connector	Lead wire		Pre-wired positive common terminal		
				300mm [11.8in.]	3000mm [118in.]	Lead wire 300mm [11.8in.]	Lead wire 3000mm [118in.]		300mm [11.8in.]	3000mm [118in.]	Lead wire 300mm [11.8in.]	Lead wire 3000mm [118in.]	
	Blank **-R**Note 3	**-A1**Note 4	**Blank**	**-PL**	**-PL3**	**-CPL**	**-CPL3**	**-PN**	**-PS**	**-PS3**	**-CPS**	**-CPS3**	**DC24V** **DC12V** **AC100V**

CS-F Valve size **BP** (for block-off plate)

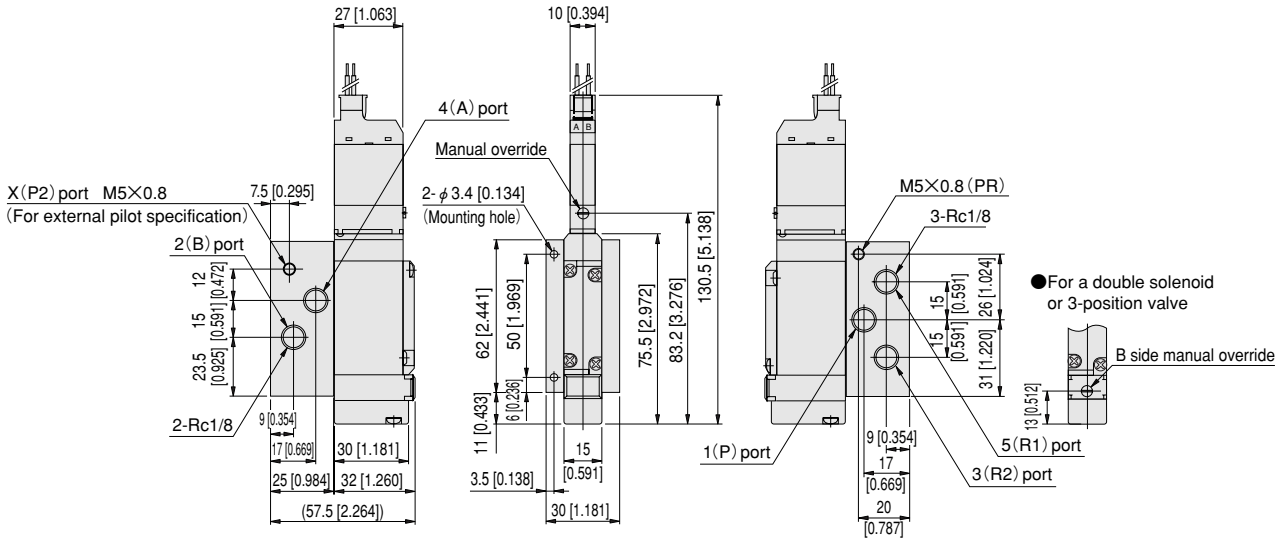
	Wiring specification										Voltage
	L type connector					S type connector					
	Without connector	Lead wire		Pre-wired positive common terminal		Without connector	Lead wire		Pre-wired positive common terminal		
		300mm [11.8in.]	3000mm [118in.]	Lead wire 300mm [11.8in.]	Lead wire 3000mm [118in.]		300mm [11.8in.]	3000mm [118in.]	Lead wire 300mm [11.8in.]	Lead wire 3000mm [118in.]	
	Blank	**-PL**	**-PL3**	**-CPL**	**-CPL3**	**-PN**	**-PS**	**-PS3**	**-CPS**	**-CPS3**	**DC24V** **DC12V** **AC100V**

CS-F Valve size **BP** (for block-off plate)

Dimensions of Single Valve Unit mm [in.]

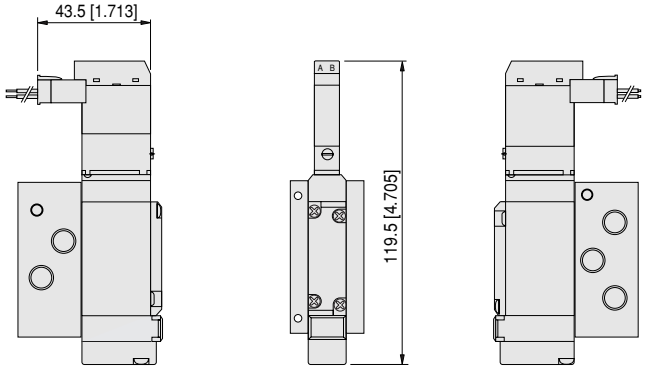
CS-F15T **Valve specification** **Operation type** **-A2-PS**

With an A type sub-base
S type plug connector



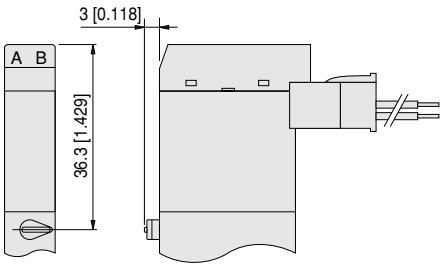
●Option

● L type plug connector : **-PL**



●Made to Order

● Manual override lever

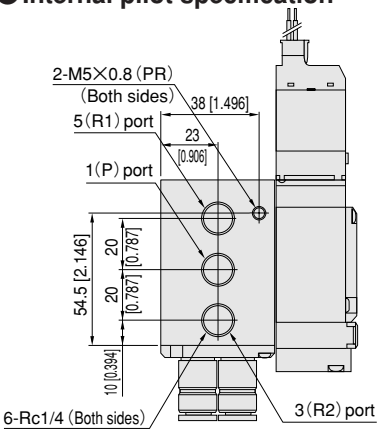


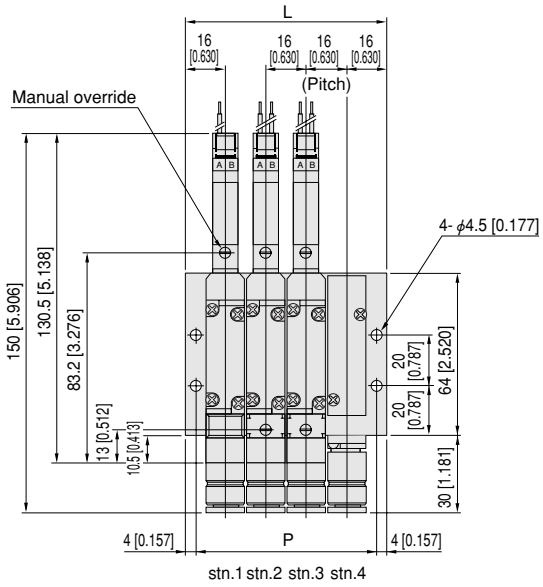
Dimensions of Monoblock Manifold A Type, F Type mm [in.]

CS-F15M Number of units A J/M Pilot specification (base piping type)

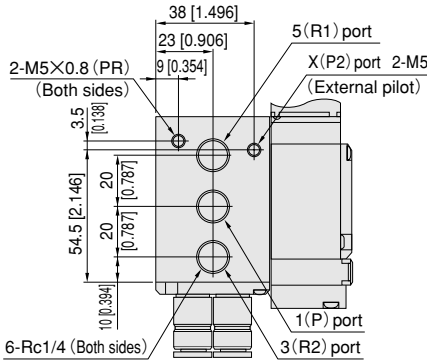
Monoblock manifold A type
Manifold with outlet port different size fitting blocks
S type plug connector

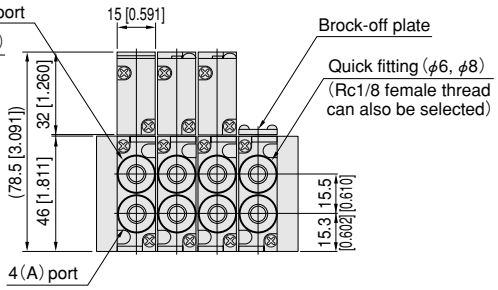
●Internal pilot specification





●External pilot specification



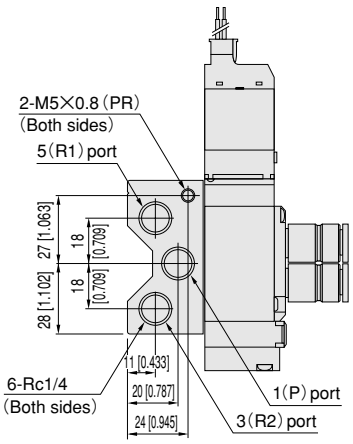


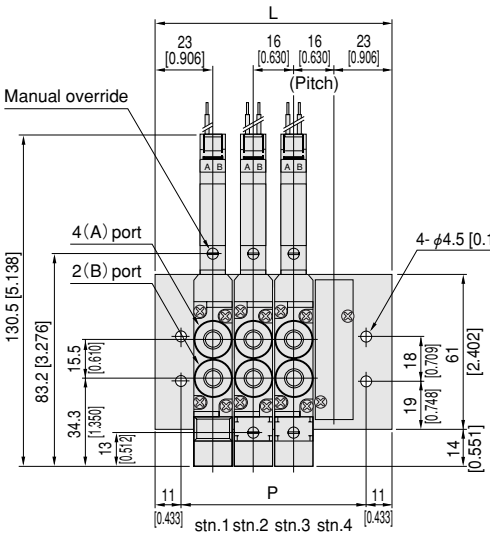
Unit dimensions

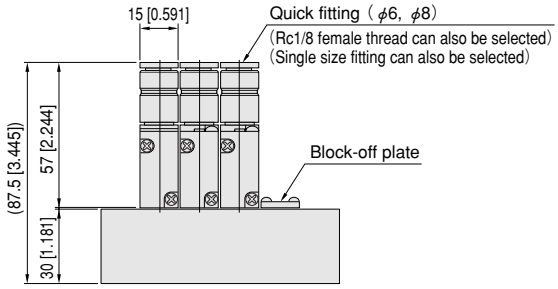
No. of units	L	P
2	48 [1.890]	40 [1.575]
3	64 [2.520]	56 [2.205]
4	80 [3.150]	72 [2.835]
5	96 [3.780]	88 [3.465]
6	112 [4.409]	104 [4.094]
7	128 [5.039]	120 [4.724]
8	144 [5.669]	136 [5.354]
9	160 [6.299]	152 [5.984]
10	176 [6.929]	168 [6.614]
11	192 [7.559]	184 [7.244]
12	208 [8.189]	200 [7.874]
13	224 [8.819]	216 [8.504]
14	240 [9.449]	232 [9.134]
15	256 [10.079]	248 [9.764]
16	272 [10.709]	264 [10.394]
17	288 [11.339]	280 [11.024]
18	304 [11.969]	296 [11.654]
19	320 [12.598]	312 [12.283]
20	336 [13.228]	328 [12.913]

CS-F15M Number of units F (direct piping type)

Monoblock manifold F type
Valves with outlet port different size fitting blocks
S type plug connector





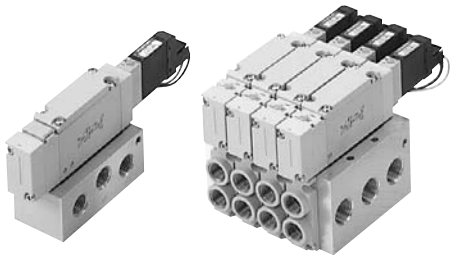


Unit dimensions

No. of units	L	P
2	62 [2.441]	40 [1.575]
3	78 [3.071]	56 [2.205]
4	94 [3.701]	72 [2.835]
5	110 [4.331]	88 [3.465]
6	126 [4.961]	104 [4.094]
7	142 [5.591]	120 [4.724]
8	158 [6.220]	136 [5.354]
9	174 [6.850]	152 [5.984]
10	190 [7.480]	168 [6.614]
11	206 [8.110]	184 [7.244]
12	222 [8.740]	200 [7.874]
13	238 [9.370]	216 [8.504]
14	254 [10.000]	232 [9.134]
15	270 [10.630]	248 [9.764]
16	286 [11.260]	264 [10.394]
17	302 [11.890]	280 [11.024]
18	318 [12.520]	296 [11.654]
19	334 [13.150]	312 [12.283]
20	350 [13.780]	328 [12.913]

KOGANEI CLEAN SYSTEM

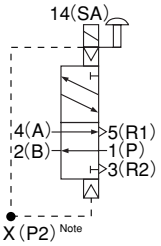
SOLENOID VALVES
F18 SERIES



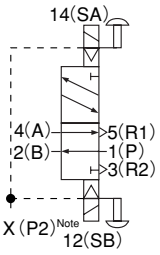
Symbols

5-port, 2-position

When set as a single solenoid



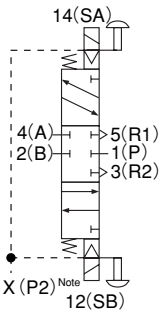
When set as a double solenoid



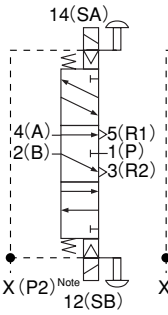
Note: For external pilot type.

5-port, 3-position (Both SA and SB are de-energized)

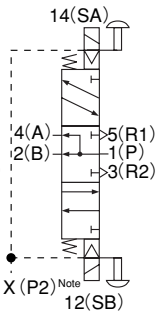
Closed center



Exhaust center



Pressure center



Specifications

Item \ Basic model		CS-F18T1	CS-F18T3 CS-F18T4 CS-F18T5	CS-F18T1G	CS-F18T3G CS-F18T4G CS-F18T5G	CS-F18T1V	CS-F18T3V CS-F18T4V CS-F18T5V
Media		Air					
Operation type		Internal pilot type		External pilot type (for positive pressure)		External pilot type (for vacuum)	
Effective area〔CV〕	mm²	18〔1〕					
Port size		Fitting for ϕ 8 and ϕ 10, Rc1/4		M5×0.8, Fitting for ϕ 8 and ϕ 10, Rc1/4			
Lubrication		Not required					
Operating pressure range	Main valve	0.15～0.7MPa [22～102psi.]		0～0.7MPa [0～102psi.] Note1		–100kPa～0.15MPa [–29.53in.Hg～22psi.]	
	External pilot	——		0.2～0.7MPa [29～102psi.] Note1		0.2～0.7MPa [29～102psi.]	
Proof pressure	MPa [psi.]	1.05 [152]					
Response time Note2 ON/OFF time	ms DC12V, DC24V	25/35 or below	15/70 or below	25/35 or below	15/70 or below	25/35 or below	15/70 or below
	ms AC100V	25/35 or below	15/70 or below	25/35 or below	15/70 or below	25/35 or below	15/70 or below
Maximum operating frequency	Hz	5					
Minimum time to energize for self holding Note3	ms	50	——	50	——	50	——
Operating temperature range (atmosphere and media)	°C [°F]	5～50 [41～122]					
Shock resistance	m/s² {G}	1373 {140.0} (Axial direction 294.2 {30.0})	294.2 {30.0}	1373 {140.0} (Axial direction 294.2 {30.0})	294.2 {30.0}	1373 {140.0} (Axial direction 294.2 {30.0})	294.2 {30.0}
Mounting direction		Any					

Notes: 1. When the main valve pressure is 0.2～0.7MPa [29～102psi.], set the external pilot pressure to the main valve pressure or higher, and to 0.7MPa [102psi.] or less.
2. Values when air pressure is 0.5MPa [73psi.]. The values for 2-position valves are when used as a single solenoid, and the values for 3-position valves are those when switching from the neutral position of closed center.
3. When used as a double solenoid valve.

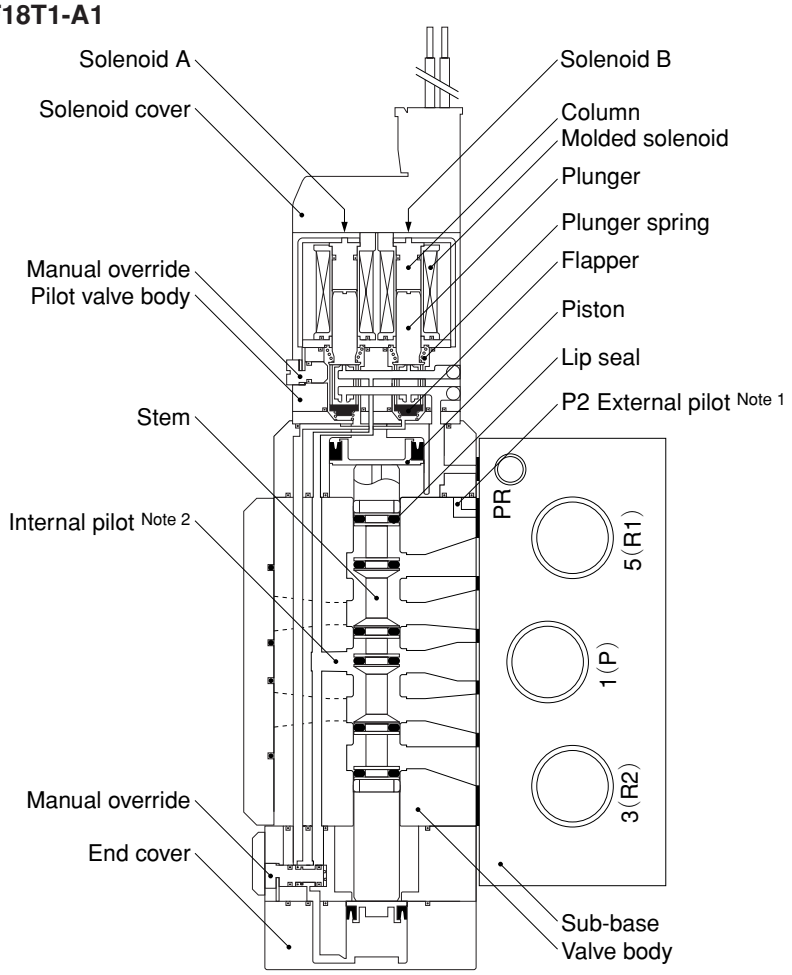
Solenoid Specifications

Item \ Rated voltage		DC12V	DC24V	AC100V	
Voltage range	V	10.8～13.2 (12±10%)	21.6～26.4 (24±10%)	90～110 (100±10%)	
Rated frequency	Hz	——	——	50	60
Current (when rated voltage is applied)	mA (r.m.s) Starting	——	——	15 Note 1	15 Note 1
	Energizing	76	38	15 Note 1	15 Note 1
Power consumption	W	0.9	0.9	1.5VA	
Allowable leakage current	mA	4.0	2.0	4.0	
Insulation resistance Note 2	MΩ	Over 10			
Color of LED indicator		14(SA)：Red, 12(SB)：Green	14(SA)：Red, 12(SB)：Green	14(SA)：Red, 12(SB)：Green	
Surge suppression (as standard)		Flywheel diode		Bridge diode	

Notes: 1. Since the AC types have built-in bridge diodes, the starting current and energizing current value are virtually the same.
2. Value at DC500V megger.

Inner Construction and Major Parts

●**CS-F18T1-A1**



Major Parts and Materials

Parts			Materials
Valve	Body		Aluminum die-casting
	Stem		Aluminum alloy
	Lip seal		Synthetic rubber
	Flapper		
	Sub-base		Aluminum alloy (anodized)
	Plunger		Magnetic stainless steel
	Column		
	End cover		Plastic
Manifold	Body	Monoblock	Aluminum alloy (anodized)
	Block-off plate		Mild steel (nickel plated)
	Seal		Synthetic rubber

Notes: 1. For external pilot type
2. Not available with external pilot type

Order Codes

CS-F18 - □ - □ - □ - □ - □

Clean system F18 series valve basic model		Pilot specification			Manual override		Valve outlet type Note 3				
		Internal pilot	External pilot (positive pressure)	External pilot (vacuum)	Manual override button	Manual override lever (made to order) Note 1	Without inlet/outlet block	With A type outlet plate	With A type sub-base	With outlet port fitting block	With outlet port female thread block
●For sub-base-mounted units (cannot be used for units without sub-base) ●For A type manifold ●For F type manifold	**CS-F18T1** 2-position (Both single and double solenoid use)	**Blank**	**G**	**V**	**Blank**	**-R** Note 1	**Blank** Note 2	**-A1** Note 2	**-A2**	**-FJ** Note 2	**-FM** Note 2
	CS-F18T3 3-position (Closed center)										
	CS-F18T4 3-position (Exhaust center)										
	CS-F18T5 3-position (Pressure center)										

Notes: 1. The manual override lever is made to order. Consult us for delivery. When the valve specification is T1, the manual override lever is available for the A side only.
2. Two manifold mounting screws are included.
3. For the outlet port size, see the table at right.

Monoblock Manifold A type (Base Piping Type) Order Codes

CS-F18M □ □ □ □ ⋮ □ □ ⋮ □

Clean system F18 series manifold basic model	Number of units		Manifold outlet specification		Pilot specification		Station Note 1	Valve size	Valve specification	Pilot specification
			With fitting block: ϕ8, ϕ10	With female thread block: Rc1/4	Internal pilot	External pilot				
CS-F18M	**2** : 2 units **3** : 3 units ⋮ **20** : 20 units	**A**	**J**	**M**	**Blank**	**G**	**stn.1** : First **stn.2** : Second **stn.3** : Third ⋮ **stn.20** : 20th	**CS-F18**	**T1:** 2-position, single solenoid specification **T2:** 2-position, double solenoid specification Note 2 **T3:** 3-position, closed center **T4:** 3-position, exhaust center **T5:** 3-position, pressure center	**Blank** **G** **V**

Notes: 1. Valve mounting location is from the left, with the solenoid on top and the valve in front.
2. This is a special model when ordering manifolds. If ordering valves only for repairs, etc., order CS-F□T1, and switch to the double solenoid specification for use.
3. The manual override lever is made to order. Consult us for delivery. When the valve specification is T1 or T2, the manual override lever is available for the A side only.
4. Always enter -A1.

Monoblock Manifold F type (Direct Piping Type) Order Codes

CS-F18M □ □ □ □ ⋮ □ □ ⋮ □

Clean system F18 series manifold basic model	Number of units		Station Note 1	Valve size	Valve specification	Manual override	Valve outlet type	
							With outlet port fitting block	With outlet port female thread block
CS-F18M	**2** : 2 units **3** : 3 units ⋮ **20** : 20 units	**F**	**stn.1** : First **stn.2** : Second **stn.3** : Third ⋮ **stn.20** : 20th	**CS-F18**	**T1:** 2-position, single solenoid specification **T2:** 2-position, double solenoid specification Note 2 **T3:** 3-position, closed center **T4:** 3-position, exhaust center **T5:** 3-position, pressure center	**Blank** **-R** Note 3	**-FJ**	**-FM**

Notes: 1. Valve mounting location is from the left, with the solenoid on top and the valve in front.
2. This is a special model when ordering manifolds. If ordering valves only for repairs, etc., order CS-F□T1, and switch to the double solenoid specification for use.
3. The manual override lever is made to order. Consult us for delivery. When the valve specification is T1 or T2, the manual override lever is available for the A side only.

	Wiring specification						Voltage
	L type plug connector			S type plug connector			
	Without connector	Lead wire		Without connector	Lead wire		
		300mm [11.8in.]	3000mm [118in.]		300mm [11.8in.]	3000mm [118in.]	
	Blank	**-PL**	**-PL3**	**-PN**	**-PS**	**-PS3**	**DC24V** **DC12V** **AC100V**

Valve outlet type (code)	Outlet port size
-A2	Rc1/4
-FJ	ϕ8, ϕ10
-FM	Rc1/4

	Manual override	Valve outlet type	Wiring specification										Voltage
			L type connector					S type connector					
			Without connector	Lead wire		Pre-wired positive common terminal		Without connector	Lead wire		Pre-wired positive common terminal		
				300mm [11.8in.]	3000mm [118in.]	Lead wire 300mm [11.8in.]	Lead wire 3000mm [118in.]		300mm [11.8in.]	3000mm [118in.]	Lead wire 300mm [11.8in.]	Lead wire 3000mm [118in.]	
	Blank **-R**Note 3	**-A1**Note 4	**Blank**	**-PL**	**-PL3**	**-CPL**	**-CPL3**	**-PN**	**-PS**	**-PS3**	**-CPS**	**-CPS3**	**DC24V** **DC12V** **AC100V**

CS-F Valve size **BP** (for block-off plate)

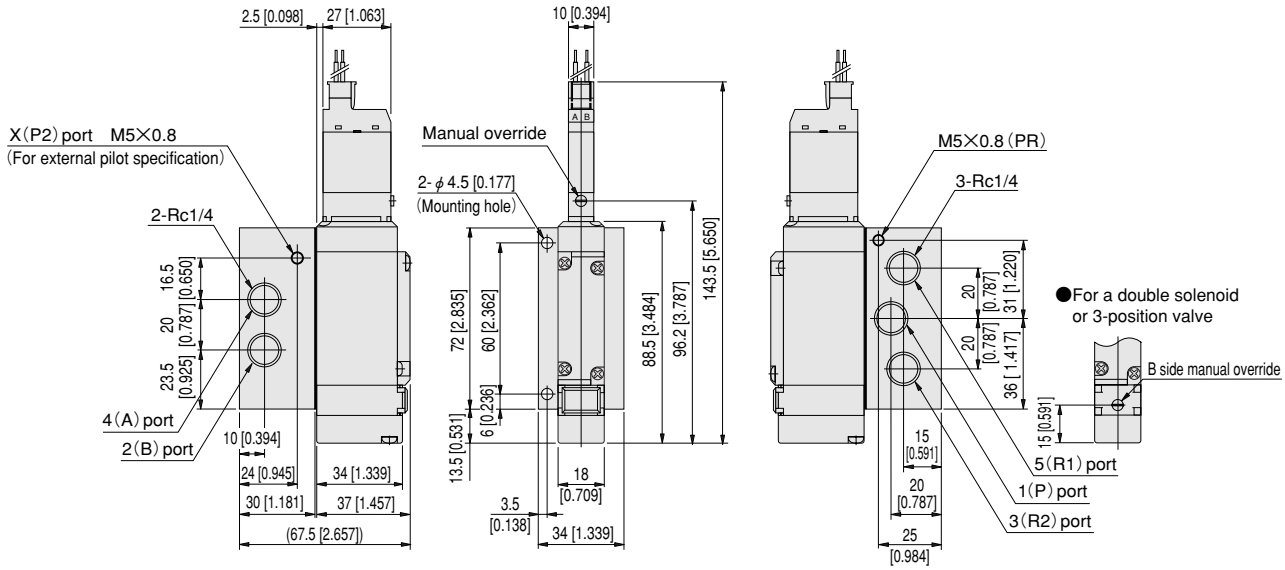
	Wiring specification										Voltage
	L type connector					S type connector					
	Without connector	Lead wire		Pre-wired positive common terminal		Without connector	Lead wire		Pre-wired positive common terminal		
		300mm [11.8in.]	3000mm [118in.]	Lead wire 300mm [11.8in.]	Lead wire 3000mm [118in.]		300mm [11.8in.]	3000mm [118in.]	Lead wire 300mm [11.8in.]	Lead wire 3000mm [118in.]	
	Blank	**-PL**	**-PL3**	**-CPL**	**-CPL3**	**-PN**	**-PS**	**-PS3**	**-CPS**	**-CPS3**	**DC24V** **DC12V** **AC100V**

CS-F Valve size **BP** (for block-off plate)

Dimensions of Single Valve Unit mm [in.]

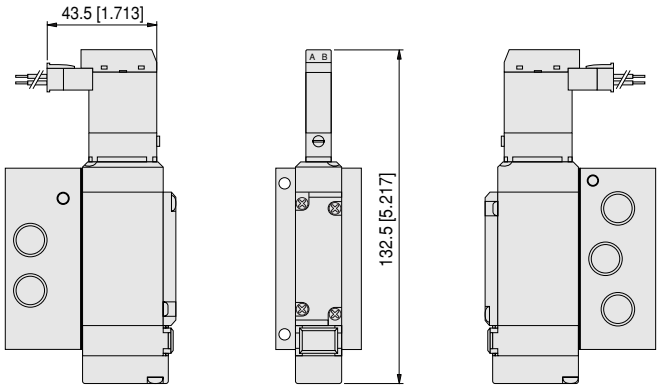
CS-F18T **Valve specification** **Operation type** **-A2-PS**

With an A type sub-base
S type plug connector



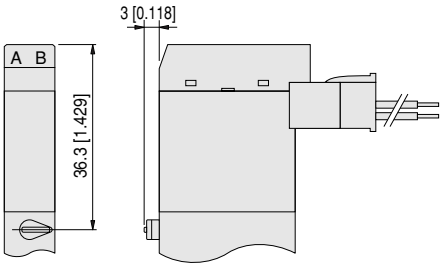
●Option

● L type plug connector: **-PL**



●Made to Order

● Manual override lever

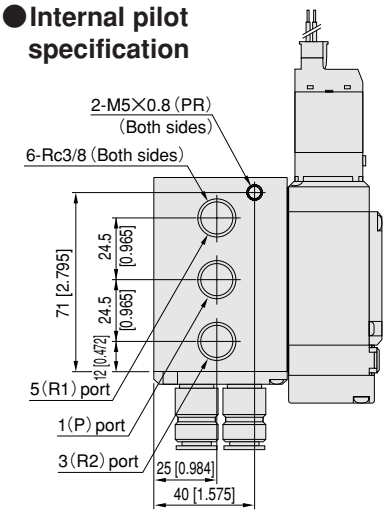


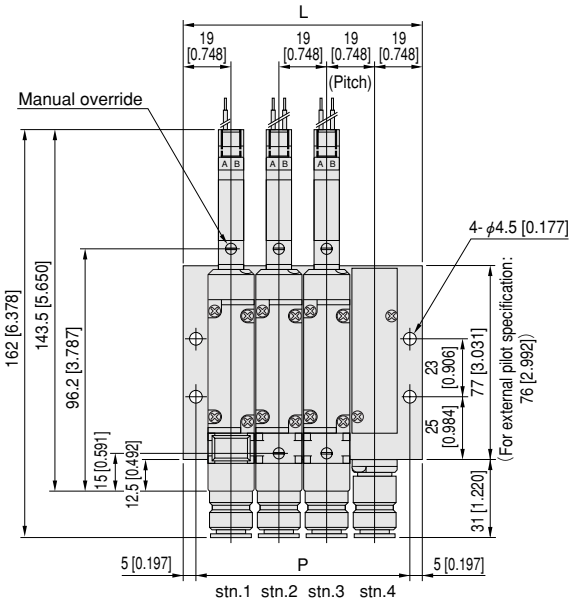
Dimensions of Monoblock Manifold A Type, F Type mm [in.]

CS-F18M Number of units A J/M Pilot specification (base piping type)

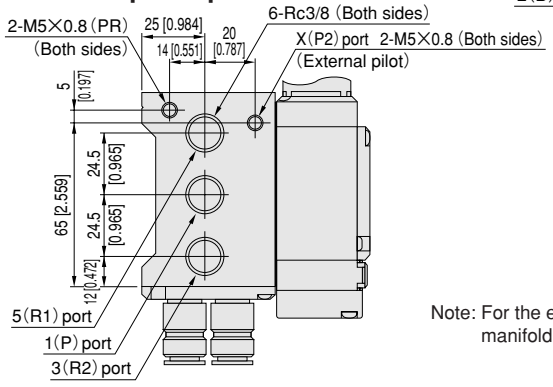
Monoblock manifold A type
Manifold with outlet port different size fitting blocks
S type plug connector

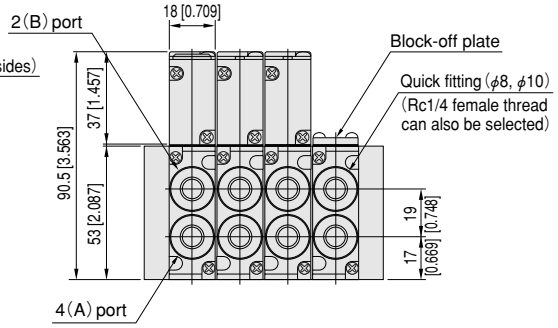
●Internal pilot specification





●External pilot specification (Note)





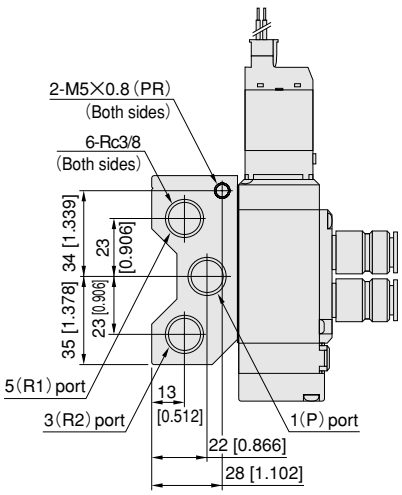
Note: For the external pilot specifications, the body shape of the monoblock manifold A type differs from the internal pilot specifications.

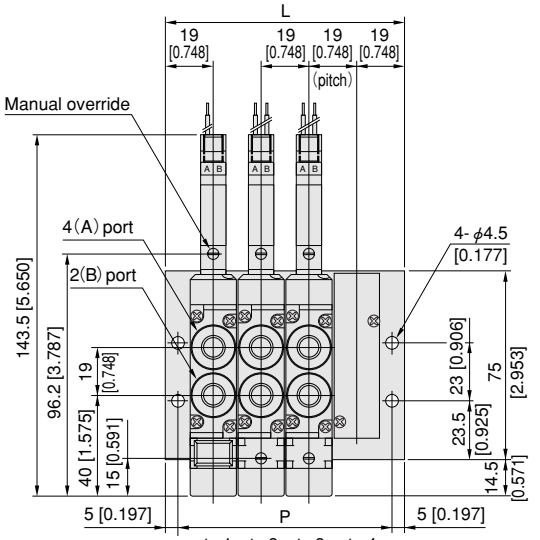
Unit dimensions

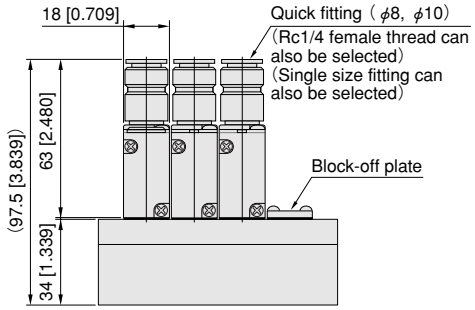
No. of units	L	P
2	57 [2.244]	47 [1.850]
3	76 [2.992]	66 [2.598]
4	95 [3.740]	85 [3.346]
5	114 [4.488]	104 [4.094]
6	133 [5.236]	123 [4.843]
7	152 [5.984]	142 [5.591]
8	171 [6.732]	161 [6.339]
9	190 [7.480]	180 [7.087]
10	209 [8.228]	199 [7.835]
11	228 [8.976]	218 [8.583]
12	247 [9.724]	237 [9.331]
13	266 [10.472]	256 [10.079]
14	285 [11.220]	275 [10.827]
15	304 [11.969]	294 [11.575]
16	323 [12.717]	313 [12.323]
17	342 [13.465]	332 [13.071]
18	361 [14.213]	351 [13.819]
19	380 [14.961]	370 [14.567]
20	399 [15.709]	389 [15.315]

CS-F18M Number of units F (direct piping type)

Monoblock manifold F type
Valves with outlet port different size fitting blocks
S type plug connector





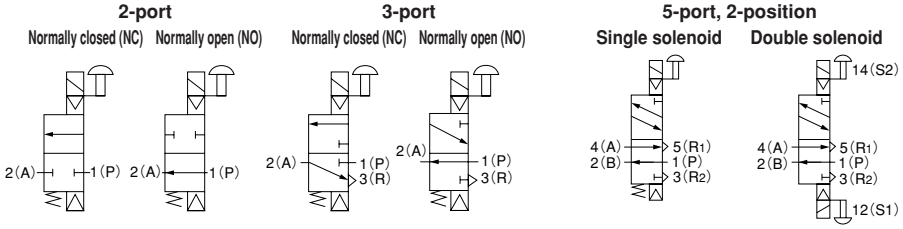


Unit dimensions

No. of units	L	P
2	57 [2.244]	47 [1.850]
3	76 [2.992]	66 [2.598]
4	95 [3.740]	85 [3.346]
5	114 [4.488]	104 [4.094]
6	133 [5.236]	123 [4.843]
7	152 [5.984]	142 [5.591]
8	171 [6.732]	161 [6.339]
9	190 [7.480]	180 [7.087]
10	209 [8.228]	199 [7.835]
11	228 [8.976]	218 [8.583]
12	247 [9.724]	237 [9.331]
13	266 [10.472]	256 [10.079]
14	285 [11.220]	275 [10.827]
15	304 [11.969]	294 [11.575]
16	323 [12.717]	313 [12.323]
17	342 [13.465]	332 [13.071]
18	361 [14.213]	351 [13.819]
19	380 [14.961]	370 [14.567]
20	399 [15.709]	389 [15.315]

SOLENOID VALVES
110 SERIES

Symbols



Specifications

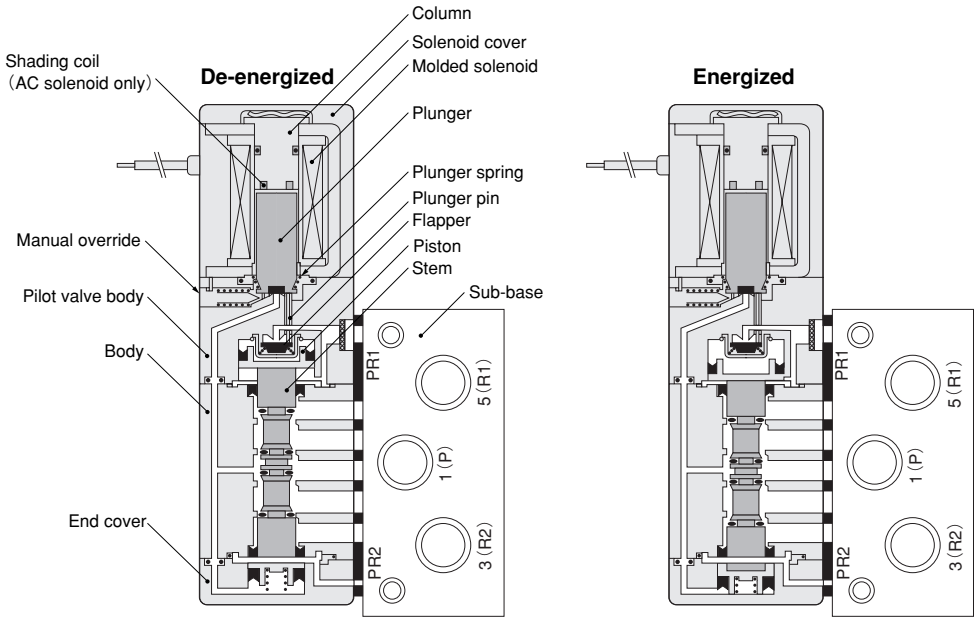
Item \ Basic model	For direct piping, FE type manifolds	CS-110E1	CS-110-4E1 CS-110-4E2
	For sub-base piping, A, AJ type manifolds	CS-A110E1	CS-A110-4E1 CS-A110-4E2
Number of positions		2 positions	
Number of ports		2, 3 ports	5 ports
Valve function		Normally closed (NC, standard) or Normally open (NO, optional)	Single solenoid or Double solenoid
Media		Air	
Operation type		Internal pilot type	
Effective area〔Cv〕 mm²		4.2〔0.23〕	
Port size		M5×0.8	
Lubrication		Not required	
Operating pressure range MPa [psi.]		0.15～0.7 [22～102]	
Proof pressure MPa [psi.]		1.05 [152]	
Response time Note ms ON/OFF	DC12V,DC24V	15/25 or below	15/25〔20〕or below
	AC100V,AC200V	15/15 or below	15/15〔15〕or below
Maximum operating frequency Hz		5	
Minimum time to energize for self holding ms		—	50 (CS-□110-4E2)
Operating temperature range (atmosphere and media) °C [°F]		5～50 [41～122]	
Shock resistance m/s² {G}		1373.0 {140.0} (Axial direction 294.2 {30.0})	
Mounting direction		Any	

Note: Values when air pressure is 0.5MPa [73psi.]. Value in brackets 〔 〕 for CS-□110-4E2 is when switching from the opposite position.

Solenoid Specifications

Item \ Rated voltage		DC12V	DC24V	AC100V		AC200V	
Type		Flywheel diode incorporated for surge suppression		Shading type			
Operating voltage range V		10.8～13.2 (12±10%)	21.6～26.4 (24±10%)	90～132 (100^{+32}_{-10}%)		180～264 (200^{+32}_{-10}%)	
Current (when rated voltage is applied)	Frequency Hz	—	—	50	60	50	60
	Starting mA (r.m.s)	—	—	36	32	18	16
	Energizing mA (r.m.s)	130 (1.6W) 〔140 (1.7W) with LED indicator〕	65 (1.6W) 〔75(1.8W) with LED indicator〕	24	20	12	10
Allowable leakage current mA		8	4	4		2	
Insulation resistance MΩ		Over 100					
Wiring type and lead wire length	Standard	Grommet type: 300mm [11.8in.]					
	Optional	Plug connector type: 300mm [11.8in.]					
Color of lead wire		Brown (+) Black (−)	Red (+) Black (−)	Yellow		White	
Color of LED indicator		Red		Yellow		Green	
Surge suppression (as standard)		Flywheel diode		Varistor			

CS-A110-4E1-25



Major Parts and Materials

Parts	Materials
Body, end cover	Aluminum alloy (anodized)
Stem	
Lip seal	Synthetic rubber (NBR)
Flapper	
Mounting base	Mild steel (nickel plated)
Sub-base	Aluminum alloy (anodized)
Plunger	Magnetic stainless steel
Column	
Mounting screw	Mild steel (nickel plated)

Manifold Materials

Parts	Materials
Manifold body	Aluminum alloy (anodized)
Block-off plate	Mild steel (nickel plated)
Seal	Synthetic rubber (NBR)
Mounting screw	Mild steel (nickel plated)

Order Codes

CS - 110E1 – □ – □ – □ – □ – □ – □ – **AC100V**

Clean system 110 series valve basic model			Number of ports		2-, 3-port valve function		Sub-base		Manual override
			3-port	2-port	Normally closed (NC)	Normally open (NO)	Without sub-base	With sub-base	Non-locking type (standard)
●For sub-base-mounted units (cannot be used for units without sub-base) ●For A type manifold ●For AJ type manifold	**CS - A110E1**	3-port	**Blank**	**- 2**	**Blank**	**- 11**	**Blank** Cannot be used as single unit	**- 25**	**Blank**
	CS - A110 - 4E1	5-port	——		——				
	CS - A110 - 4E2	5-port							
●For FE type manifold (can be used only for manifold mounting)	**CS - 110E1**	3-port	**Blank**	**- 2**	**Blank**	**- 11**	——		
	CS - 110 - 4E1	5-port	——		——		Dedicated for manifold mounting		
	CS - 110 - 4E2	5-port							

Note: Used only with common terminal pre-wired manifolds. Order code -CP□L is for DC12V and DC24V positive side, and for AC100V and AC200V.
-CM□L is for DC12V and DC24V negative side.

Manifold Order Codes

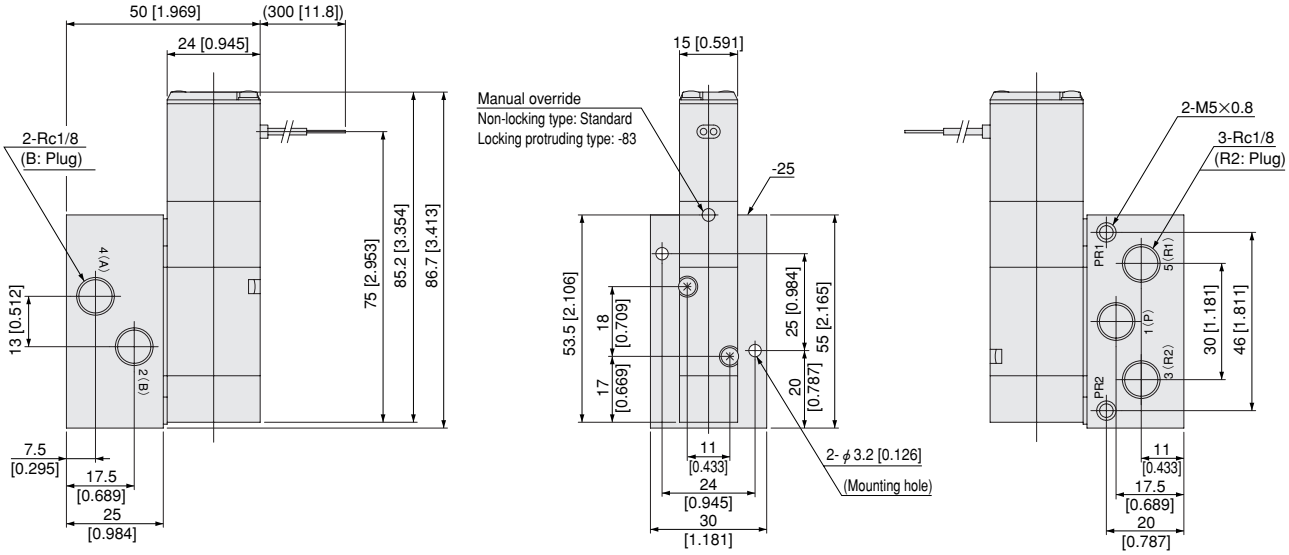
CS - 110M □ □ □ □

Clean system 110 series manifold basic model	Number of units	Manifold model	Station	Clean system mounting valve type
CS-110M	**2** : 2 units **3** : 3 units ⋮ **20** : 20 units	**FE** : FE type ●P, R and PR collective manifold ●Valve with A and B ports for piping **A** : A type ●All ports manifold ●Manifold with Rc1/8 A and B ports **AJ** : AJ type ●All ports manifold with quick fittings ●A, B ports with quick fittings	●Valve mounting position from left, as viewed from the front **Stn.1** : First **Stn.2** : Second **Stn.3** : Third ⋮ **Stn.20** : 20th	● For details of valve models, see the order codes listed above. ● Enter **CS-BP** when closing a station with a block-off plate without mounting a valve.

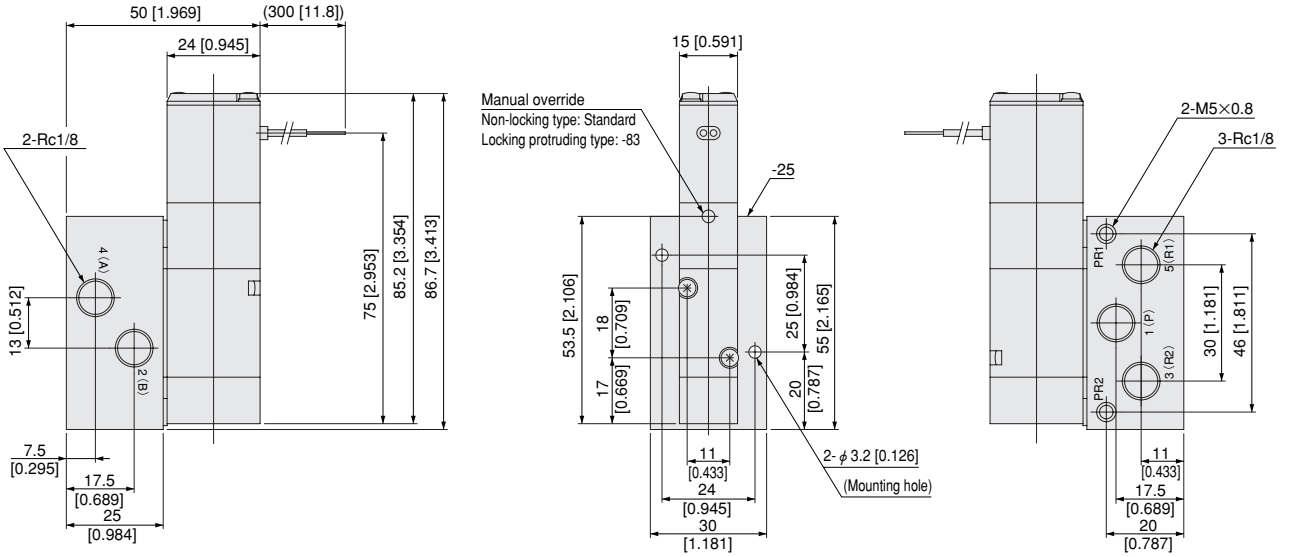
		Solenoid option			Manifold connection port (For AJ type manifold only)		Voltage
	Locking protruding type	Grommet (standard)	Straight connector	L connector	Quick fitting for ϕ 4 tube	Quick fitting for ϕ 6 tube	
			With LED indicator	With LED indicator			
	- 83	**Blank**	**- PSL** **- CPSL**Note **- CMSL**Note	**- PLL** **- CPLL**Note **- CMLL**Note	**- J4**	**- J6**	**DC12V** **DC24V** **AC100V** **AC200V**
					——		

Dimensions of Solenoid Valve mm [in.]

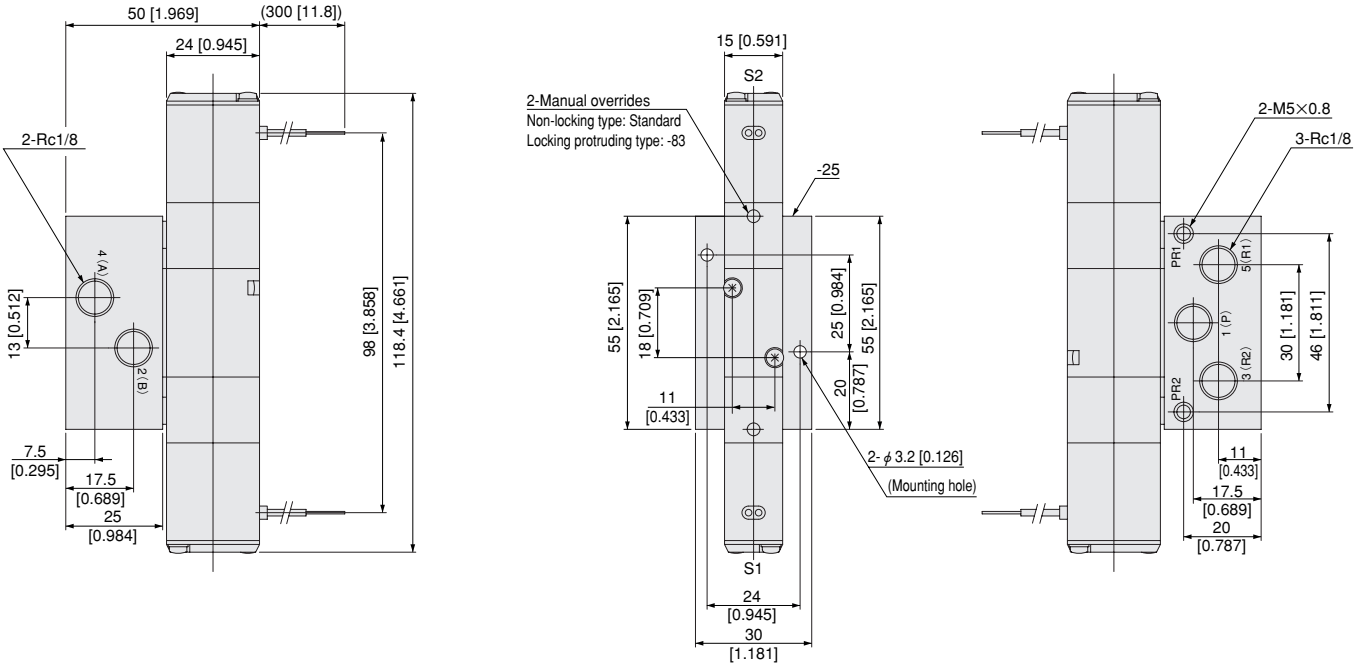
●CS-A110E1-25



●CS-A110-4E1-25



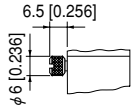
●CS-A110-4E2-25



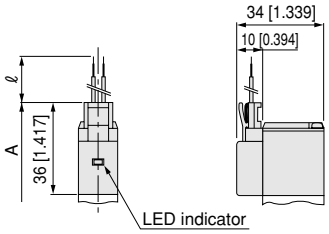
Dimensions of Solenoid Valve mm [in.]

●Options

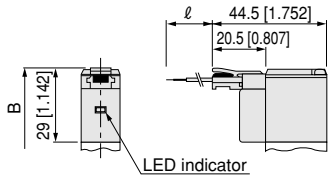
●Locking protruding type manual override : **-83**



●Solenoid with straight connector : **-PSL**

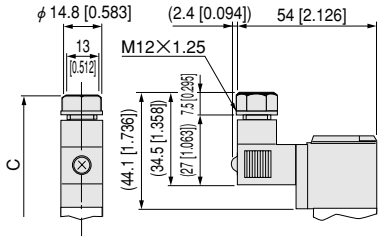


●Solenoid with L connector : **-PLL**

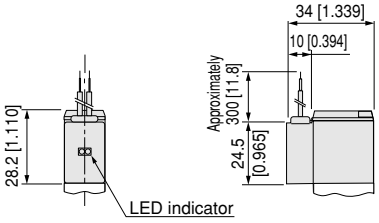


●Made to Order

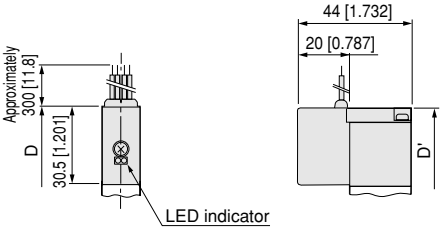
●Solenoid with DIN connector : **-39**



●Solenoid with LED indicator : **-L**

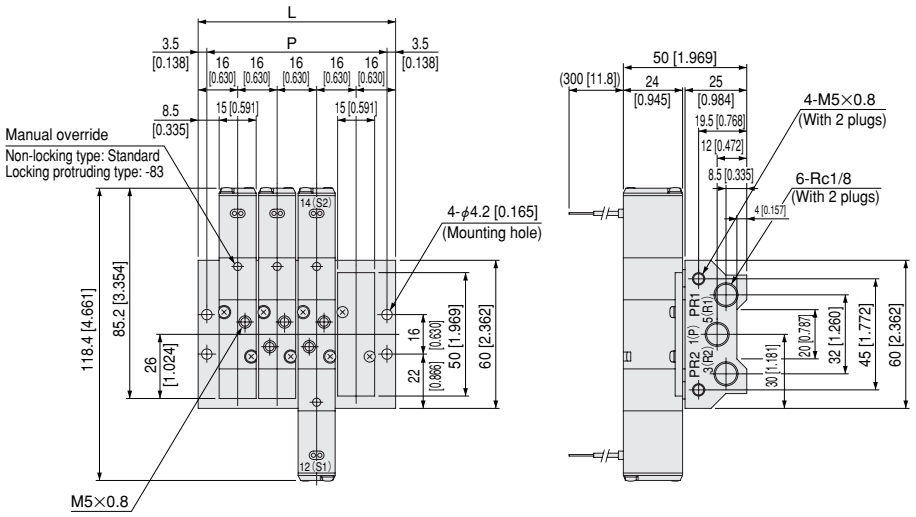


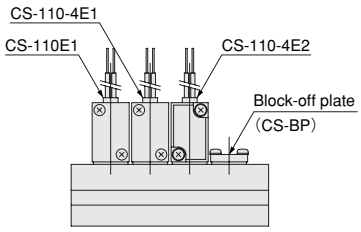
●Built-in interface unit : **-FA**



Model / Code	A	B	C	D	D'	ℓ (lead wire length)	Remarks
CS-A110E1	93 [3.661]	86 [3.386]	101.1 [3.980]	87.5 [3.445]	87.7 [3.453]	**-PSL, -PLL** : 300 [11.8] Made to order : **-1L** ; 1000 [39] **-3L** ; 3000 [118]	Overall length to the end of the valve or sub-base
CS-A110-4E1-25	94.5 [3.720]	87.5 [3.445]	102.6 [4.039]	89 [3.504]	89.2 [3.512]		
CS-110-4E2, CS-A110-4E2-25	134 [5.276]	120 [4.724]	150.2 [5.913]	123 [4.843]	123.4 [4.858]		Overall length to the end of the opposite side solenoid

●CS-110M□FE

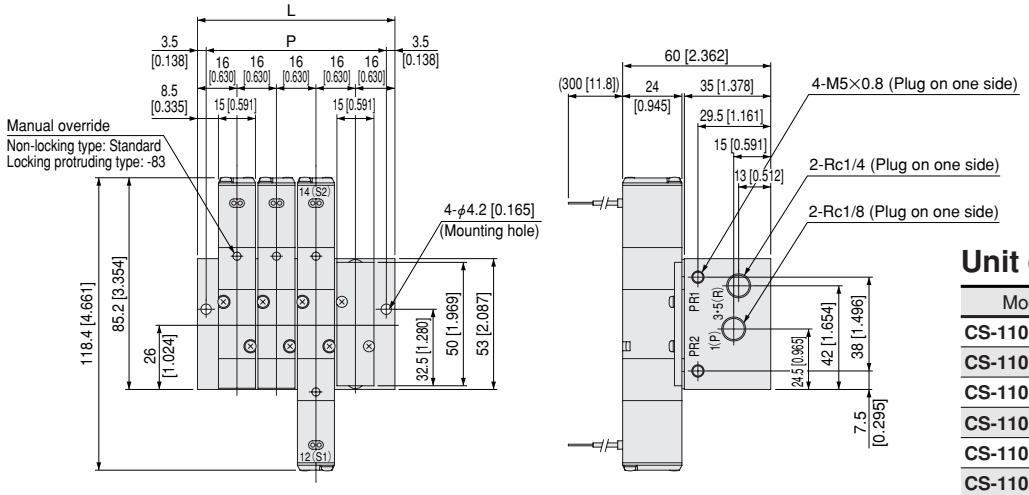


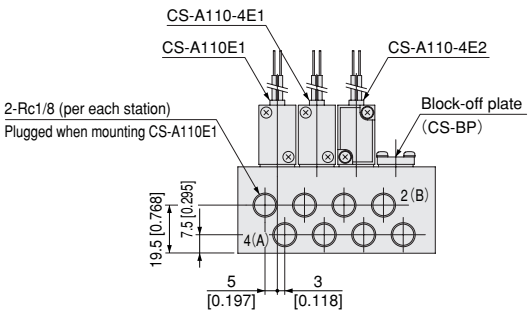


Unit dimensions

Model	P	L
CS-110M2FE	41 [1.614]	48 [1.890]
CS-110M3FE	57 [2.244]	64 [2.520]
CS-110M4FE	73 [2.874]	80 [3.150]
CS-110M5FE	89 [3.504]	96 [3.780]
CS-110M6FE	105 [4.134]	112 [4.409]
CS-110M7FE	121 [4.764]	128 [5.039]
CS-110M8FE	137 [5.394]	144 [5.669]
CS-110M9FE	153 [6.024]	160 [6.299]
CS-110M10FE	169 [6.654]	176 [6.929]
CS-110M11FE	185 [7.283]	192 [7.559]
CS-110M12FE	201 [7.913]	208 [8.189]
CS-110M13FE	217 [8.543]	224 [8.819]
CS-110M14FE	233 [9.173]	240 [9.449]
CS-110M15FE	249 [9.803]	256 [10.079]
CS-110M16FE	265 [10.433]	272 [10.709]
CS-110M17FE	281 [11.063]	288 [11.339]
CS-110M18FE	297 [11.693]	304 [11.969]
CS-110M19FE	313 [12.323]	320 [12.598]
CS-110M20FE	329 [12.953]	336 [13.228]

●CS-110M□A



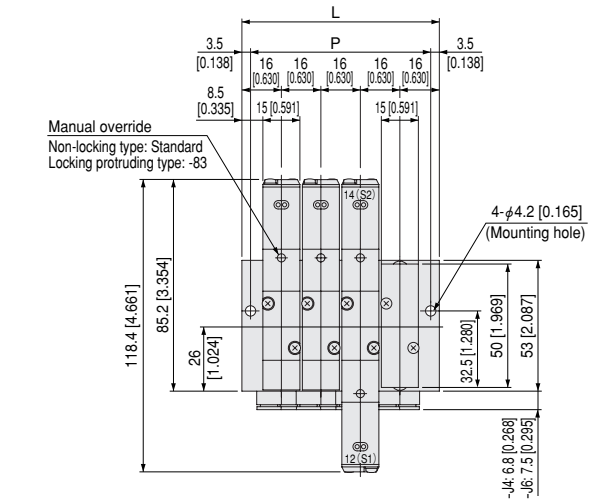


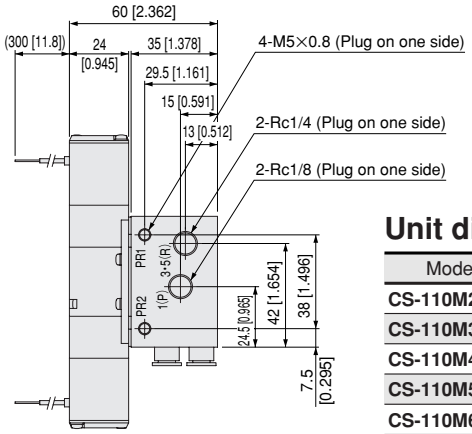
Unit dimensions

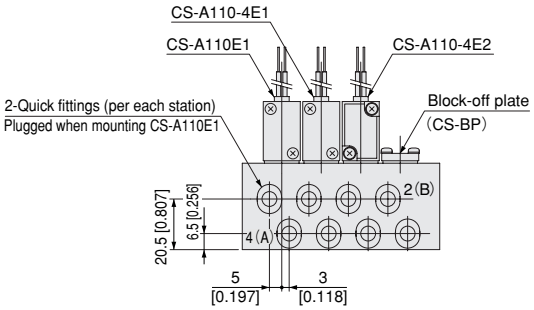
Model	P	L
CS-110M2A	41 [1.614]	48 [1.890]
CS-110M3A	57 [2.244]	64 [2.520]
CS-110M4A	73 [2.874]	80 [3.150]
CS-110M5A	89 [3.504]	96 [3.780]
CS-110M6A	105 [4.134]	112 [4.409]
CS-110M7A	121 [4.764]	128 [5.039]
CS-110M8A	137 [5.394]	144 [5.669]
CS-110M9A	153 [6.024]	160 [6.299]
CS-110M10A	169 [6.654]	176 [6.929]
CS-110M11A	185 [7.283]	192 [7.559]
CS-110M12A	201 [7.913]	208 [8.189]
CS-110M13A	217 [8.543]	224 [8.819]
CS-110M14A	233 [9.173]	240 [9.449]
CS-110M15A	249 [9.803]	256 [10.079]
CS-110M16A	265 [10.433]	272 [10.709]
CS-110M17A	281 [11.063]	288 [11.339]
CS-110M18A	297 [11.693]	304 [11.969]
CS-110M19A	313 [12.323]	320 [12.598]
CS-110M20A	329 [12.953]	336 [13.228]

Dimensions of Manifold for Combination Mounting of 2-, 3-, 5-port Valves mm [in.]

●CS-110M□AJ





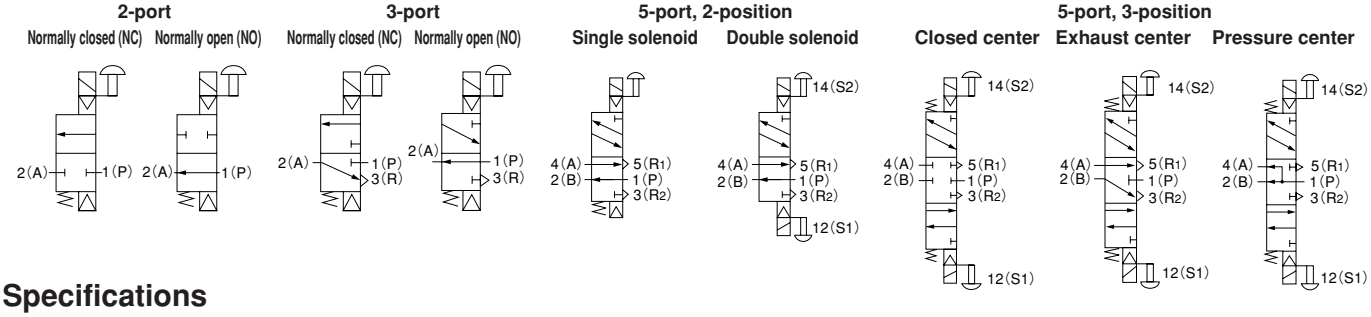


Unit dimensions

Model	P	L
CS-110M2AJ	41 [1.614]	48 [1.890]
CS-110M3AJ	57 [2.244]	64 [2.520]
CS-110M4AJ	73 [2.874]	80 [3.150]
CS-110M5AJ	89 [3.504]	96 [3.780]
CS-110M6AJ	105 [4.134]	112 [4.409]
CS-110M7AJ	121 [4.764]	128 [5.039]
CS-110M8AJ	137 [5.394]	144 [5.669]
CS-110M9AJ	153 [6.024]	160 [6.299]
CS-110M10AJ	169 [6.654]	176 [6.929]
CS-110M11AJ	185 [7.283]	192 [7.559]
CS-110M12AJ	201 [7.913]	208 [8.189]
CS-110M13AJ	217 [8.543]	224 [8.819]
CS-110M14AJ	233 [9.173]	240 [9.449]
CS-110M15AJ	249 [9.803]	256 [10.079]
CS-110M16AJ	265 [10.433]	272 [10.709]
CS-110M17AJ	281 [11.063]	288 [11.339]
CS-110M18AJ	297 [11.693]	304 [11.969]
CS-110M19AJ	313 [12.323]	320 [12.598]
CS-110M20AJ	329 [12.953]	336 [13.228]

SOLENOID VALVES
180 SERIES

Symbols



Specifications

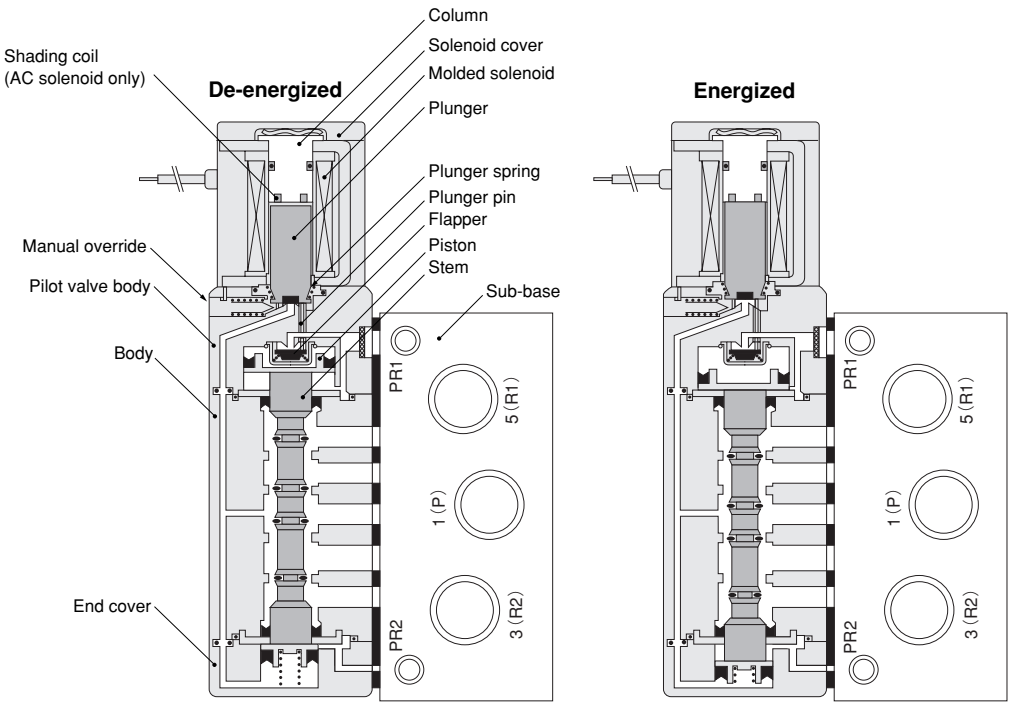
Item \ Basic model	For direct piping, FE type manifolds	CS-180E1	CS-180-4E1 CS-180-4E2	CS-183-4E2
	For sub-base piping, A, AJ type manifolds	CS-A180E1	CS-A180-4E1 CS-A180-4E2	CS-A183-4E2
Number of positions		2 positions		3 positions
Number of ports		2, 3 ports	5 ports	
Valve function		Normally closed (NC, standard) or Normally open (NO, optional)	Single solenoid or Double solenoid	Closed center (standard), Exhaust center (optional), or Pressure center (optional)
Media		Air		
Operation type		Internal pilot type		
Effective area〔Cv〕 mm²		10.2〔0.57〕Note2		9.0〔0.50〕Note2
Port size		Rc1/8		
Lubrication		Not required		
Operating pressure range MPa [psi.]		0.15～0.7 [22～102]		
Proof pressure MPa [psi.]		1.05 [152]		
Response time Note1 ms ON/OFF	DC12V, DC24V	15/20 or below	15/25〔20〕or below	15/35 or below
	AC100V, AC200V	15/15 or below	15/15〔15〕or below	15/20 or below
Maximum operating frequency Hz		5		
Minimum time to energize for self holding ms		—	50 (CS-□180-4E2)	—
Operating temperature range (atmosphere and media) ℃ [℉]		5～50 [41～122]		
Shock resistance m/s² {G}		1373.0 {140.0} (Axial direction 294.2 {30.0})		294.2 {30.0}
Mounting direction		Any		

Notes: 1. Values when air pressure is 0.5MPa [73psi.]. Value in brackets 〔 〕 for CS-□180-4E2 is when switching from the opposite position, while the values for CS-□183-4E2 are those of the closed center valve, when switching from the neutral position.
2. For A type, effective area〔Cv〕is 8.2〔0.46〕.

Solenoid Specifications

Item \ Rated voltage		DC12V	DC24V	AC100V		AC200V	
Type		Flywheel diode incorporated for surge suppression		Shading type			
Operating voltage range V		10.8～13.2 (12±10%)	21.6～26.4 (24±10%)	90～132 (100^{+32}_{-10}%)		180～264 (200^{+32}_{-10}%)	
Current (when rated voltage is applied)	Frequency Hz	—	—	50	60	50	60
	Starting mA (r.m.s)	—	—	36	32	18	16
	Energizing mA (r.m.s)	130 (1.6W) 〔140 (1.7W) with LED indicator〕	65 (1.6W) 〔75(1.8W) with LED indicator〕	24	20	12	10
Allowable leakage current mA		8	4	4		2	
Insulation resistance MΩ		Over 100					
Wiring type and lead wire length	Standard	Grommet type: 300mm [11.8in.]					
	Optional	Plug connector type: 300mm [11.8in.]					
Color of lead wire		Brown (+) Black (−)	Red (+) Black (−)	Yellow		White	
Color of LED indicator		Red		Yellow		Green	
Surge suppression (as standard)		Flywheel diode		Varistor			

CS-A180-4E1-25



Major Parts and Materials

Parts	Materials
Body, end cover	Aluminum alloy (anodized)
Stem	
Lip seal	Synthetic rubber (NBR)
Flapper	
Mounting base	Mild steel (nickel plated)
Sub-base	Aluminum alloy (anodized)
Plunger	Magnetic stainless steel
Column	
Mounting screw	Mild steel (nickel plated)

Manifold Materials

Parts	Materials
Manifold body	Aluminum alloy (anodized)
Block-off plate	Mild steel (nickel plated)
Seal	Synthetic rubber (NBR)
Mounting screw	Mild steel (nickel plated)

Order Codes

CS - 180E1 – □ – □ – □ – □ – □ – □ – □ –

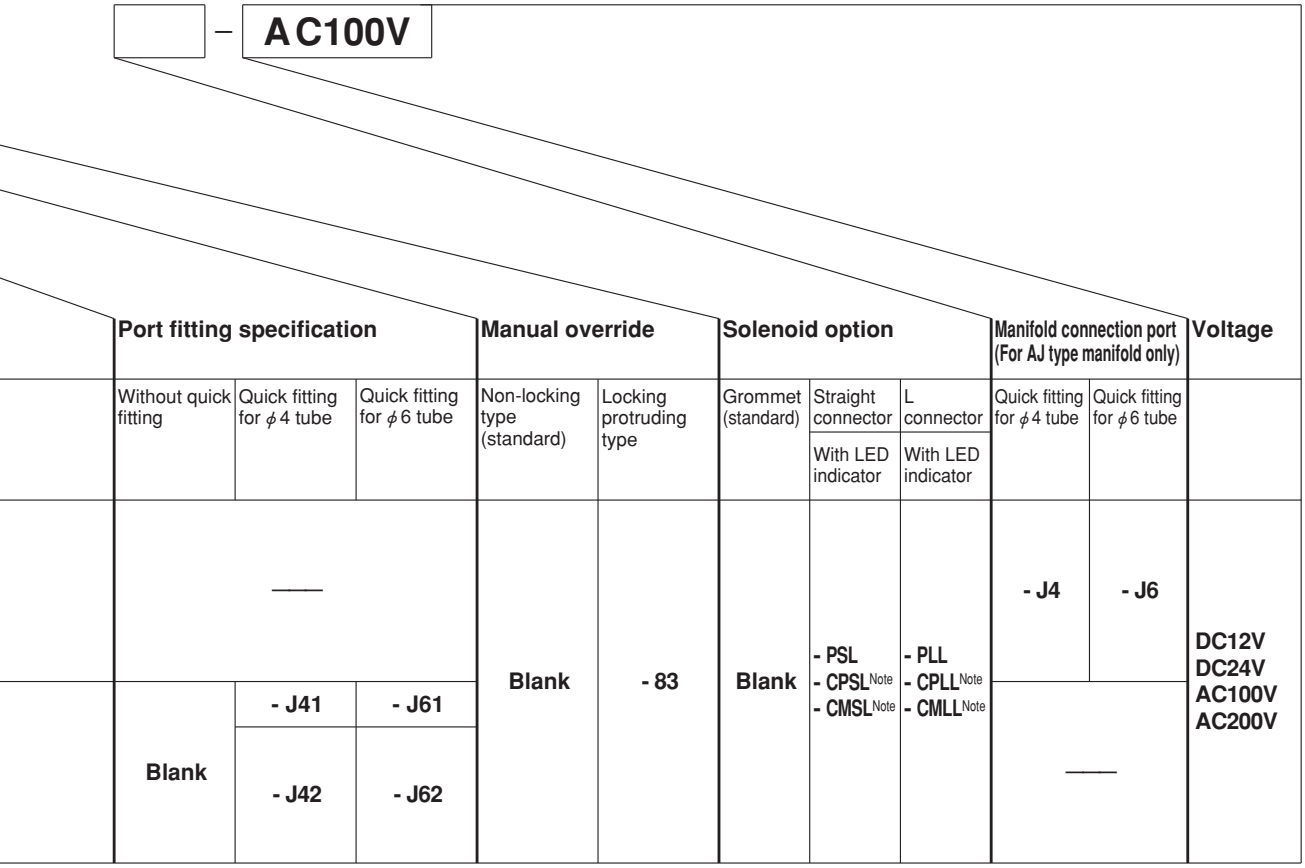
Clean system 180 series valve basic model			Number of ports		2-, 3-port valve function		3-position valve function			Sub-base	
			3-port	2-port	Normally closed (NC)	Normally open (NO)	Closed center	Exhaust center	Pressure center	Without sub-base	With sub-base
●For sub-base-mounted units (cannot be used for units without sub-base) ●For A type manifold ●For AJ type manifold	**CS - A180E1**	3-port	**Blank**	**- 2**	**Blank**	**- 11**	——			**Blank** Cannot be used as single unit	**- 25**
	CS - A180 - 4E1	5-port	——		——						
	CS - A180 - 4E2	5-port									
	CS - A183 - 4E2	5-port					**Blank**	**- 13**	**- 14**		
●For FE type manifold (can be used only for manifold mounting)	**CS - 180E1**	3-port	**Blank**	**- 2**	**Blank**	**- 11**	——			—— Dedicated for manifold mounting	
	CS - 180 - 4E1	5-port	——		——						
	CS - 180 - 4E2	5-port									
	CS - 183 - 4E2	5-port					**Blank**	**- 13**	**- 14**		

Note: Used only with common terminal pre-wired manifolds. Order code -CP□L is for DC12V and DC24V positive side, and for AC100V and AC200V.
-CM□L is for DC12V and DC24V negative side.

Manifold Order Codes

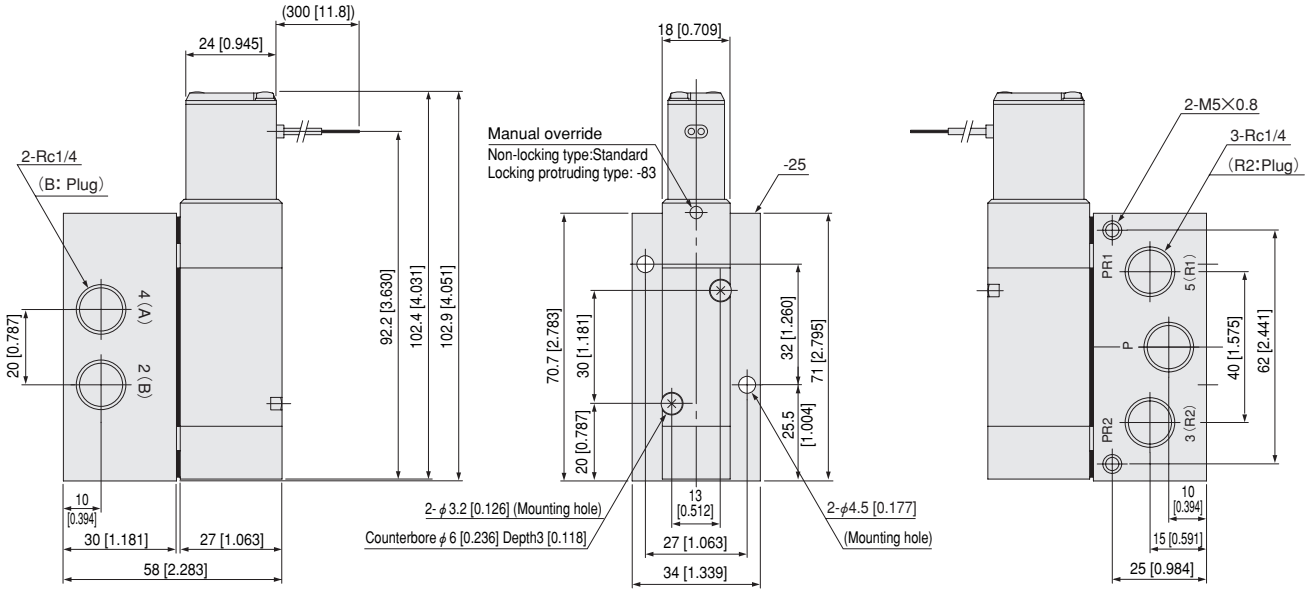
CS - 180M □ □ □ □ ⋮ ⋮ □ □

Clean system 180 series manifold basic model	Number of units	Manifold model	Station	Clean system mounting valve type
CS-180M	**2** : 2 units **3** : 3 units ⋮ **20** : 20 units	**FE** : FE type ●P, R and PR collective manifold ●Valve with A and B ports for piping **A** : A type ●All ports manifold ●Manifold with Rc1/8 A and B ports **AJ** : AJ type ●All ports manifold with quick fittings ●A, B ports with quick fittings	●Valve mounting position from left, as viewed from the front **Stn.1** : First **Stn.2** : Second **Stn.3** : Third ⋮ **Stn.20** : 20th	● For details of valve models, see the order codes listed above. ● Enter **CS-BP** when closing a station with a block-off plate without mounting a valve.

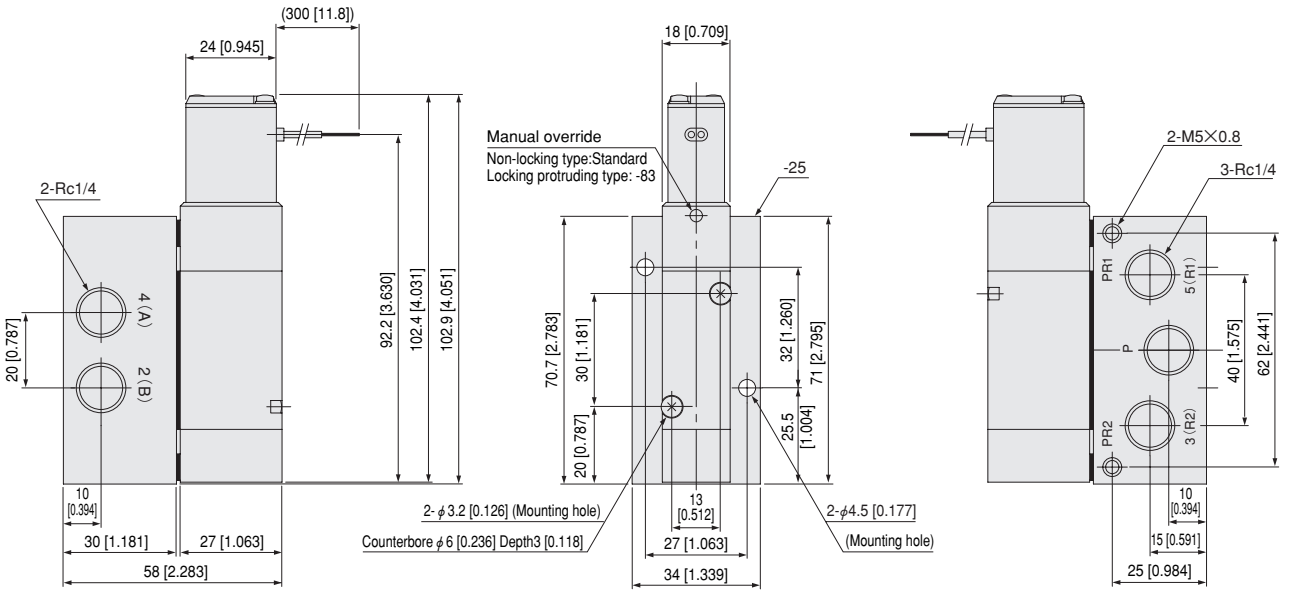

– AC100V
Port fitting specification
Manual override
Solenoid option
Manifold connection port (For AJ type manifold only)
Voltage
Without quick fitting
Quick fitting for ϕ4 tube
Quick fitting for ϕ6 tube
Non-locking type (standard)
Locking protruding type
Grommet (standard)
Straight connector
With LED indicator
L connector
With LED indicator
Quick fitting for ϕ4 tube
Quick fitting for ϕ6 tube
——
- J4
- J6
Blank
- 83
Blank
- PSL
- CPSL Note
- CMSL Note
- PLL
- CPLL Note
- CMLL Note
DC12V
DC24V
AC100V
AC200V
- J41
- J61
Blank
- J42
- J62
——

Dimensions of Solenoid Valve mm [in.]

●CS-A180E1-25

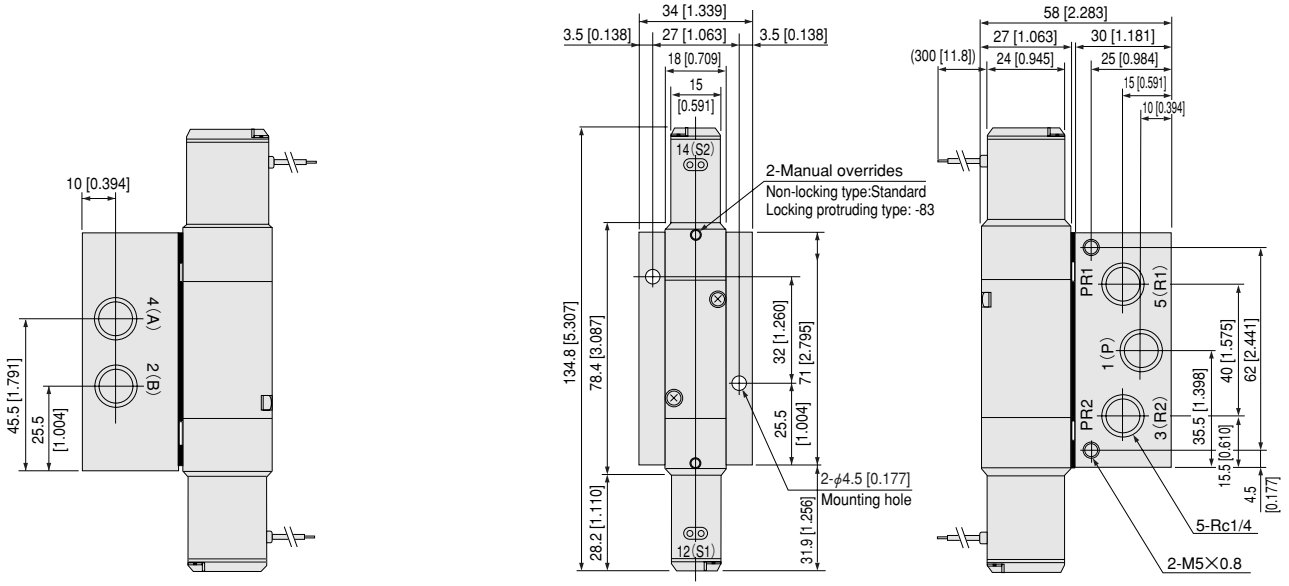


●CS-A180-4E1-25

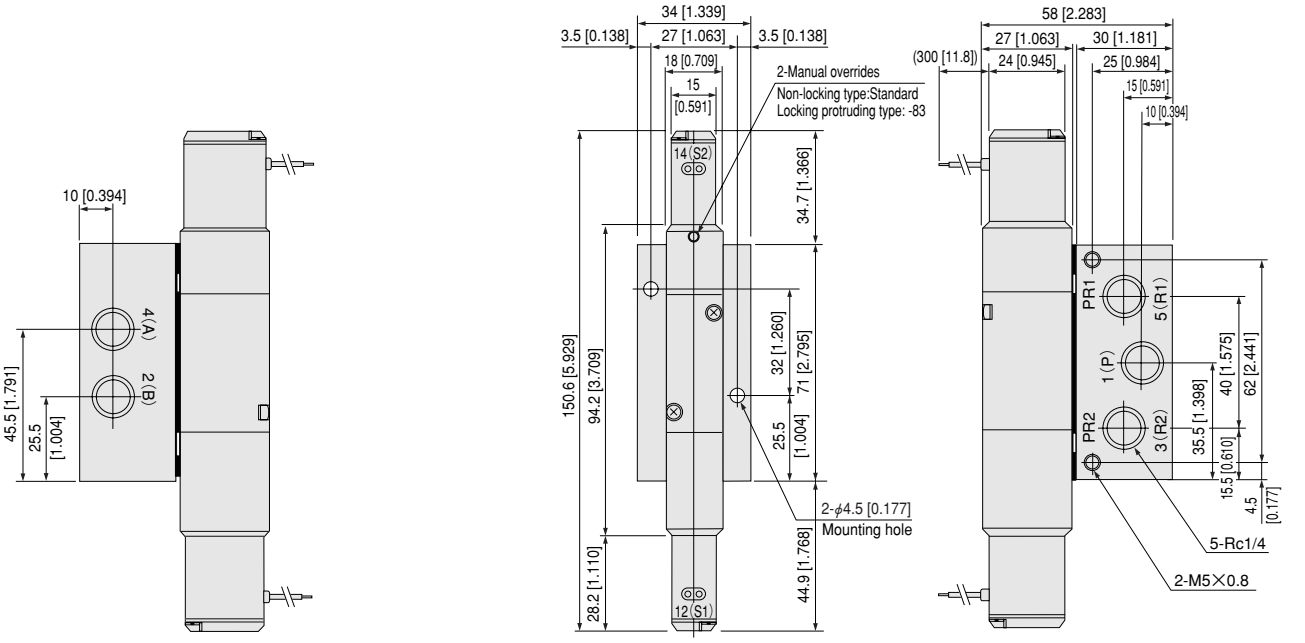


Dimensions of Solenoid Valve mm [in.]

●CS-A180-4E2-25



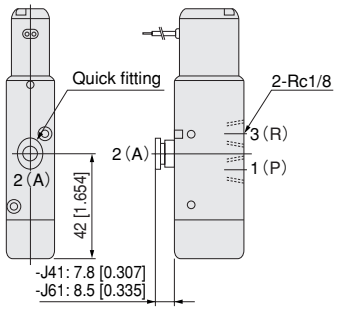
●CS-A183-4E2-25



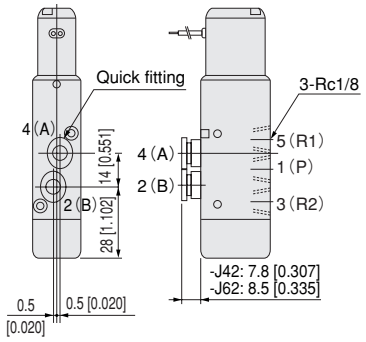
Dimensions mm [in.]

●Options

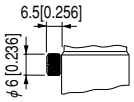
●With quick fittings (2-, 3-port):
-J41 (For ϕ 4 tube, 2(A) port with fitting)
-J61 (For ϕ 6 tube, 2(A) port with fitting)
The drawing shows the -J61 specification.



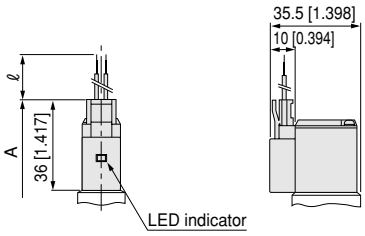
●With quick fittings (5-port):
-J42 (For ϕ 4 tube, 4(A), 2(B) ports with fittings)
-J62 (For ϕ 6 tube, 4(A), 2(B) ports with fittings)
The drawing shows the -J62 specification.



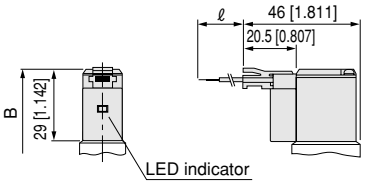
●Locking protruding type manual override: **-83**



●Solenoid with straight connector: **-PSL**

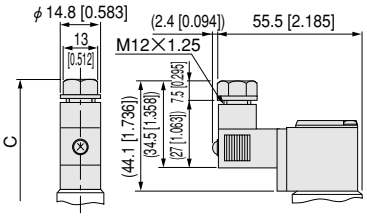


●Solenoid with L connector: **-PLL**

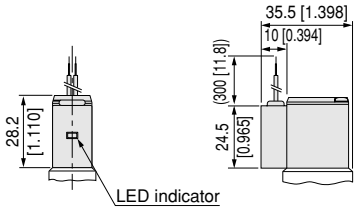


●Made to Order

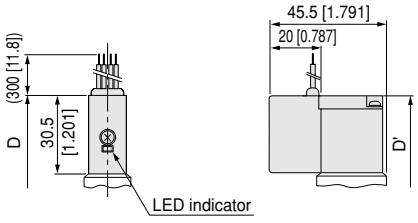
●Solenoid with DIN connector: **-39**



●Solenoid with LED indicator: **-L**

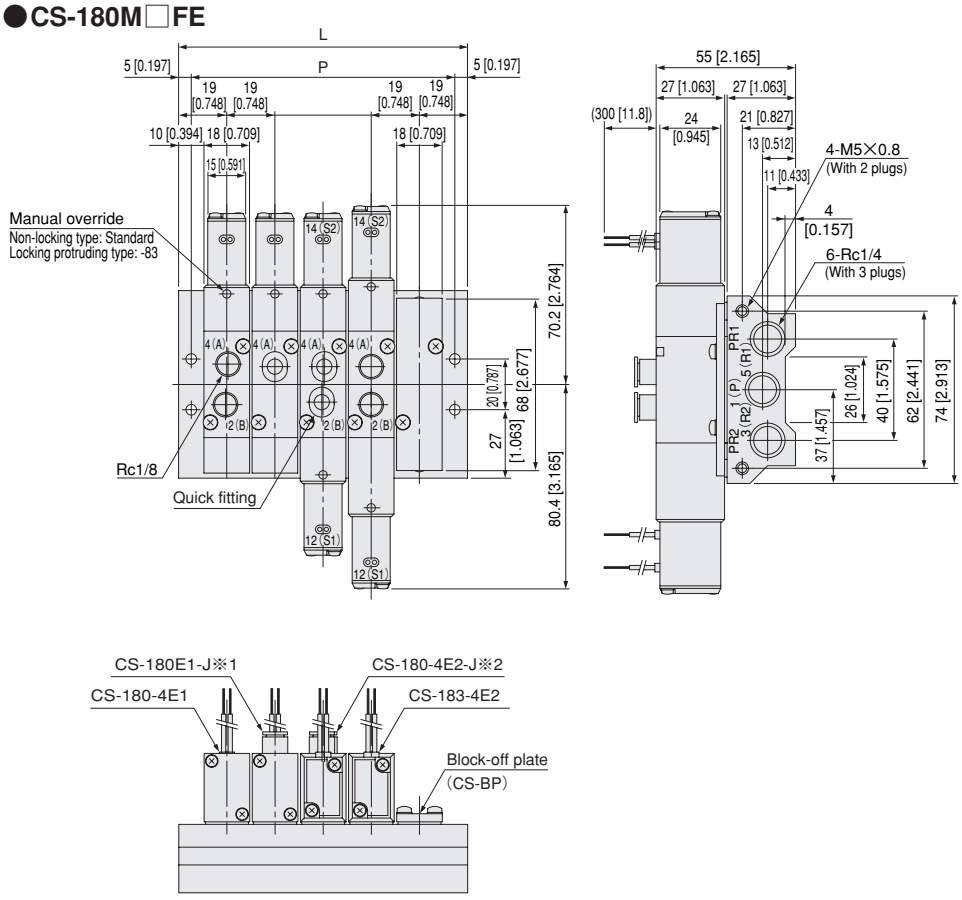


●Built-in interface unit: **-FA**



Model / Code	A	B	C	D	D'	ℓ (lead wire length)	Remarks
CS-A180E1	110.2 [4.339]	103.2 [4.063]	118.3 [4.657]	104.7 [4.122]	104.9 [4.130]	**-PSL, -PLL**: 300 [11.8] Made to order: **-1L**: 1000 [39], **-3L**: 3000 [118]	Overall length to the end of the valve or sub-base
CS-A180-4E1-25	110.7 [4.358]	103.7 [4.083]	118.8 [4.677]	104.7 [4.122]	105.4 [4.150]		
CS-180-4E2, CS-A180-4E2-25	150.4 [5.921]	136.4 [5.370]	166.6 [6.559]	139.4 [5.488]	139.8 [5.504]		Overall length to the end of the opposite side solenoid
CS-183-4E2, CS-A183-4E2-25	166.2 [6.543]	152.2 [5.992]	182.4 [7.181]	155.2 [6.110]	155.6 [6.126]		

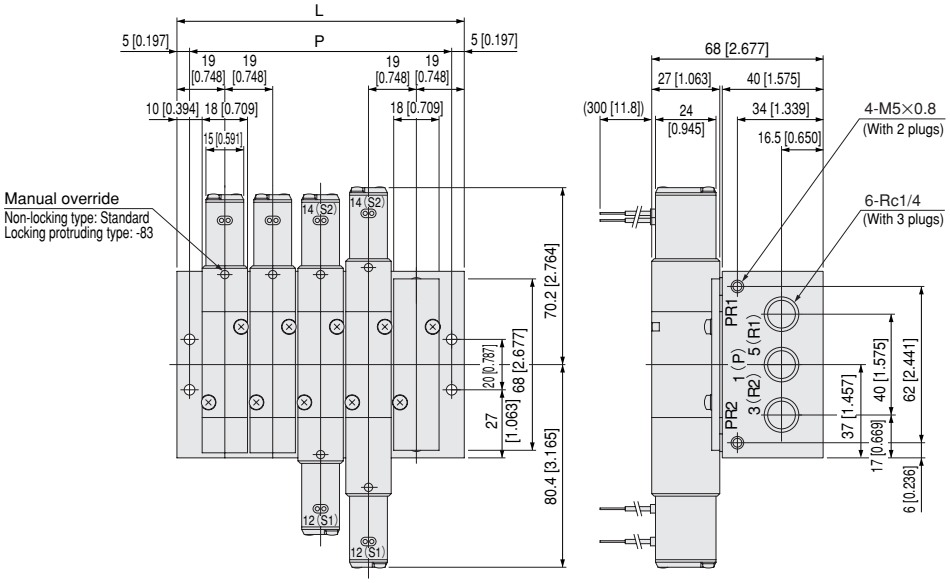
●CS-180M□FE

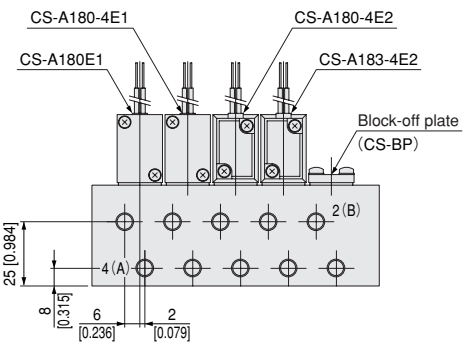


Unit dimensions

Model	P	L
CS-180M2FE	47 [1.850]	57 [2.244]
CS-180M3FE	66 [2.598]	76 [2.992]
CS-180M4FE	85 [3.346]	95 [3.740]
CS-180M5FE	104 [4.094]	114 [4.488]
CS-180M6FE	123 [4.843]	133 [5.236]
CS-180M7FE	142 [5.591]	152 [5.984]
CS-180M8FE	161 [6.339]	171 [6.732]
CS-180M9FE	180 [7.087]	190 [7.480]
CS-180M10FE	199 [7.835]	209 [8.228]
CS-180M11FE	218 [8.583]	228 [8.976]
CS-180M12FE	237 [9.331]	247 [9.724]
CS-180M13FE	256 [10.079]	266 [10.472]
CS-180M14FE	275 [10.827]	285 [11.220]
CS-180M15FE	294 [11.575]	304 [11.969]
CS-180M16FE	313 [12.323]	323 [12.717]
CS-180M17FE	332 [13.071]	342 [13.465]
CS-180M18FE	351 [13.819]	361 [14.213]
CS-180M19FE	370 [14.567]	380 [14.961]
CS-110M20FE	389 [15.315]	399 [15.709]

●CS-180M□A



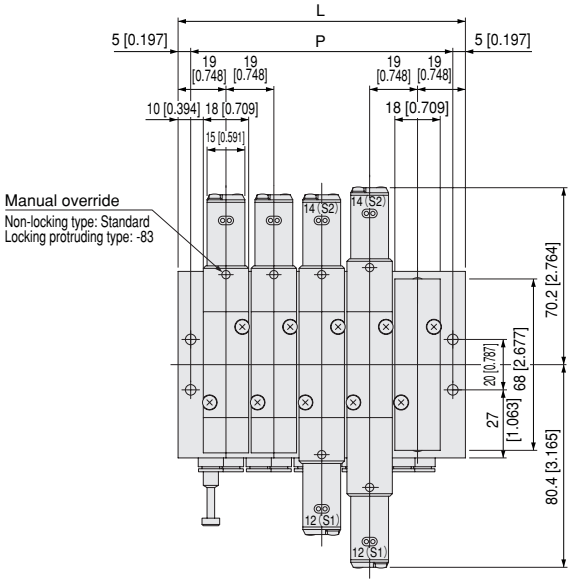


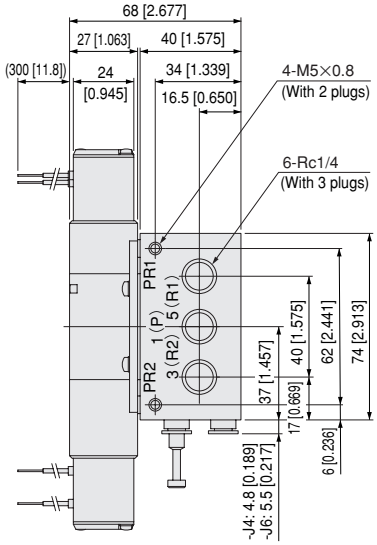
Unit dimensions

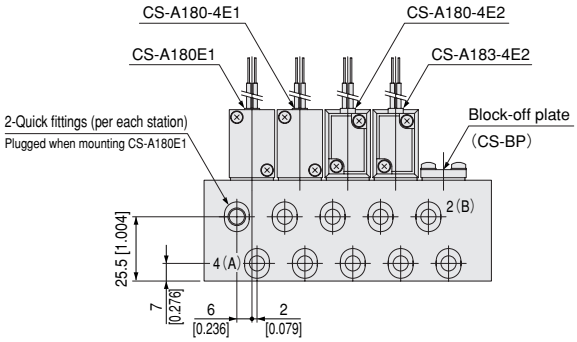
Model	P	L
CS-180M2A	47 [1.850]	57 [2.244]
CS-180M3A	66 [2.598]	76 [2.992]
CS-180M4A	85 [3.346]	95 [3.740]
CS-180M5A	104 [4.094]	114 [4.488]
CS-180M6A	123 [4.843]	133 [5.236]
CS-180M7A	142 [5.591]	152 [5.984]
CS-180M8A	161 [6.339]	171 [6.732]
CS-180M9A	180 [7.087]	190 [7.480]
CS-180M10A	199 [7.835]	209 [8.228]
CS-180M11A	218 [8.583]	228 [8.976]
CS-180M12A	237 [9.331]	247 [9.724]
CS-180M13A	256 [10.079]	266 [10.472]
CS-180M14A	275 [10.827]	285 [11.220]
CS-180M15A	294 [11.575]	304 [11.969]
CS-180M16A	313 [12.323]	323 [12.717]
CS-180M17A	332 [13.071]	342 [13.465]
CS-180M18A	351 [13.819]	361 [14.213]
CS-180M19A	370 [14.567]	380 [14.961]
CS-110M20A	389 [15.315]	399 [15.709]

Dimensions of Manifold for Combination Mounting of 2-, 3-, 5-port Valves mm [in.]

●CS-180M□AJ







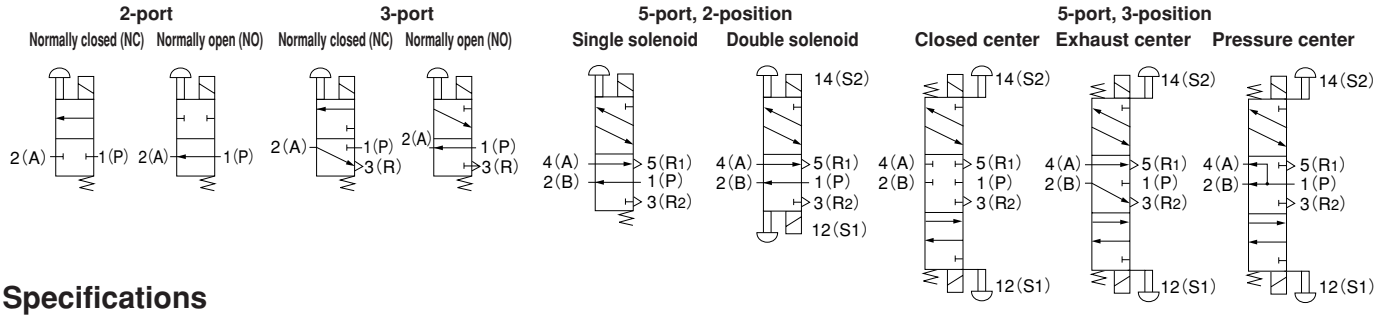
Unit dimensions

Model	P	L
CS-180M2AJ	47 [1.850]	57 [2.244]
CS-180M3AJ	66 [2.598]	76 [2.992]
CS-180M4AJ	85 [3.346]	95 [3.740]
CS-180M5AJ	104 [4.094]	114 [4.488]
CS-180M6AJ	123 [4.843]	133 [5.236]
CS-180M7AJ	142 [5.591]	152 [5.984]
CS-180M8AJ	161 [6.339]	171 [6.732]
CS-180M9AJ	180 [7.087]	190 [7.480]
CS-180M10AJ	199 [7.835]	209 [8.228]
CS-180M11AJ	218 [8.583]	228 [8.976]
CS-180M12AJ	237 [9.331]	247 [9.724]
CS-180M13AJ	256 [10.079]	266 [10.472]
CS-180M14AJ	275 [10.827]	285 [11.220]
CS-180M15AJ	294 [11.575]	304 [11.969]
CS-180M16AJ	313 [12.323]	323 [12.717]
CS-180M17AJ	332 [13.071]	342 [13.465]
CS-180M18AJ	351 [13.819]	361 [14.213]
CS-180M19AJ	370 [14.567]	380 [14.961]
CS-110M20AJ	389 [15.315]	399 [15.709]

KOGANEI CLEAN SYSTEM

SOLENOID VALVES
200 SERIES

Symbols



Specifications

Item \ Basic model	For direct piping, F, T type manifolds	CS-200E1	CS-200-4E1	CS-200-4E2	CS-203-4E2
	Single unit for mounting sub-base, A type manifold	CS-A200E1	CS-A200-4E1	CS-A200-4E2	CS-A203-4E2
Number of positions		2 positions			3 positions
Number of ports		2, 3 ports	5 ports		
Valve function		Normally closed (NC) or Normally open (NO)	Single solenoid	Double solenoid	Closed center (standard), exhaust center or pressure center (optional)
Media		Air			
Operation type		Direct acting type			
Effective area〔Cv〕 mm²		8.5〔0.47〕	7.5〔0.42〕		6.5〔0.36〕
Port size		Rc1/4			
Lubrication		Not required			
Operating pressure range MPa [psi.]		0～0.9 [0～131]		0.15～0.7 [22～102]	0～0.7 [0～102]
Proof pressure MPa [psi.]		1.35 [196]		1.05 [152]	
Response time Note ms ON/OFF	DC24V	20/20 or below		20 or below	20/20 or below
	AC100V,AC200V	20/20 or below		20 or below	20/20 or below
Maximum operating frequency Hz		5			
Minimum time to energize for self holding ms		—		50	—
Operating temperature range (atmosphere and media) ℃ [℉]		0～50 [32～122]			
Shock resistance m/s² {G}	Lateral direction	980.7{100.0}			
	Axial direction	588.4 {60.0}	392.3 {40.0}	294.2 {30.0}	588.4 {60.0}
Mounting direction		Any			

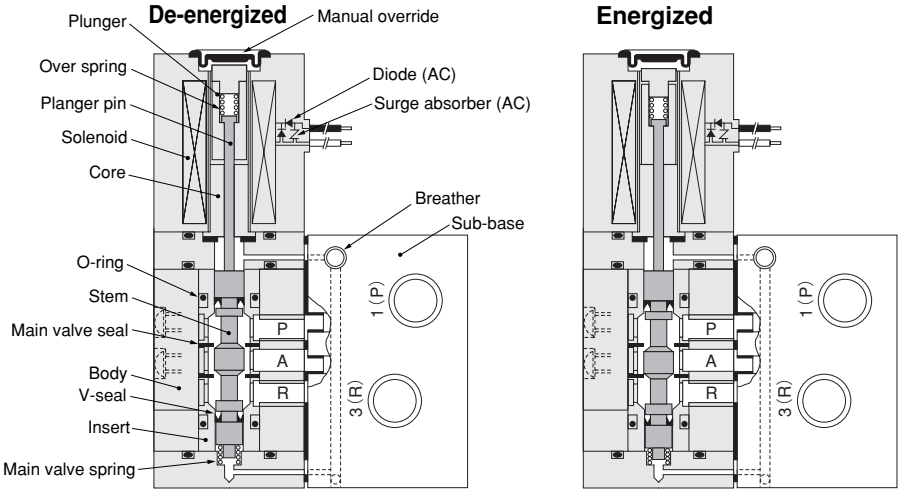
Note: Values when air pressure is 0.5MPa [73psi.]. Values for CS-□200-4E2 are switching time from the opposite-side position, and for CS-□203-4E2 are switching time from the neutral valve position.

Solenoid Specifications

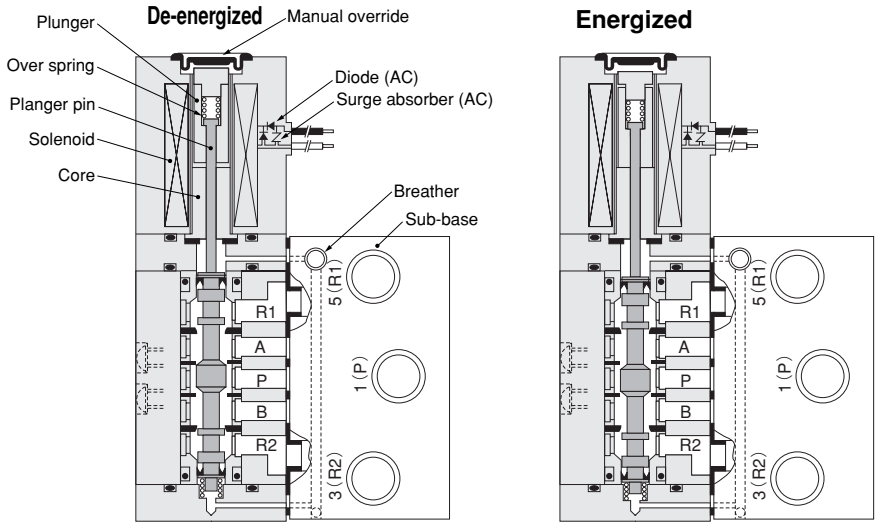
Item \ Rated voltage		DC24V	AC100V		AC200V	
Type		DC type	Flywheel diode type			
Operating voltage range V		21.6～26.4 (24±10%)	90～110 (100±10%)		180～220 (200±10%)	
Current Note 1 (when rated voltage is applied)	Frequency Hz	—	50	60	50	60
	Energizing Note 2 mA (r.m.s)	420 (10.1W) 〔432 (10.4W)〕	160 〔170〕	150 〔160〕	70 〔72〕	65 〔68〕
Maximum allowable leakage current mA		30	15		7	
Insulation resistance MΩ		10				
Wiring type and lead wire length	Standard	Grommet type: 300mm [11.8in.]				
	Optional	With DIN connector				
Color of lead wire		Red 〔Red (+), Blue (−)〕Note 1 Red (+), Black (−)Note 3	Yellow, Black		White, Black	
Color of LED indicator (optional)		Red	Yellow		Green	
Surge suppression	Standard	——	Flywheel diode			
	Optional	Flywheel diode	——			

Notes: 1. Figures in brackets 〔 〕 are for solenoids with LED indicators.
2. Since the AC types have built-in flywheel diodes, the starting current value and energizing current value are virtually the same.
3. For solenoids with surge suppression, and solenoids with surge suppression and LED indicators.

CS-A200E1-25



CS-A200-4E1-25



Major Parts and Materials

Parts	Materials
Body, sub-base	Aluminum alloy (anodized)
Stem	
Plunger	Stainless steel
Plunger pin	
Stem spring	
Main valve seal	Synthetic rubber (NBR)
V-seal	
O-ring	
Insert	Aluminum alloy and brass
Mounting screw	Mild steel (nickel plated)

Manifold Materials

Parts	Materials
Manifold body	Aluminum alloy (anodized)
Block-off plate	Mild steel (nickel plated)
Plug, mounting screw	

Order Codes

CS - A200 E1 – □ – □ – □ – □ – □ – □ – □ –

Clean system 200 series valve basic model		Valve function			Number of ports		Valve function	
		Closed center	Exhaust center	Pressure center	3-port	2-port	Normally closed (NC)	Normally open (NO)
●For sub-base-mounted units (cannot be used for units without sub-base)	**CS - A200E1** 2-, 3-port	——			**Blank**	**- 2 (Plug)**	**Blank**	**- 11**
	CS - A200 - 4E1 5-port				——		——	
	CS - A200 - 4E2 5-port							
	CS - A203 - 4E2 5-port	**Blank**	**- 13**	**- 14**				
●For manifold-mounted units	**CS - 200E1** 2-, 3-port	——			**Blank**	**- 2** (Steel ball press fitted)	**Blank**	**- 11**
	CS-200-4E1, CS-A200-4E1 5-port				——		——	
	CS-200-4E2, CS-A200-4E2 5-port							
	CS -203-4E2, CS-A203-4E2 5-port	**Blank**	**- 13**	**- 14**				

Manifold Order Codes

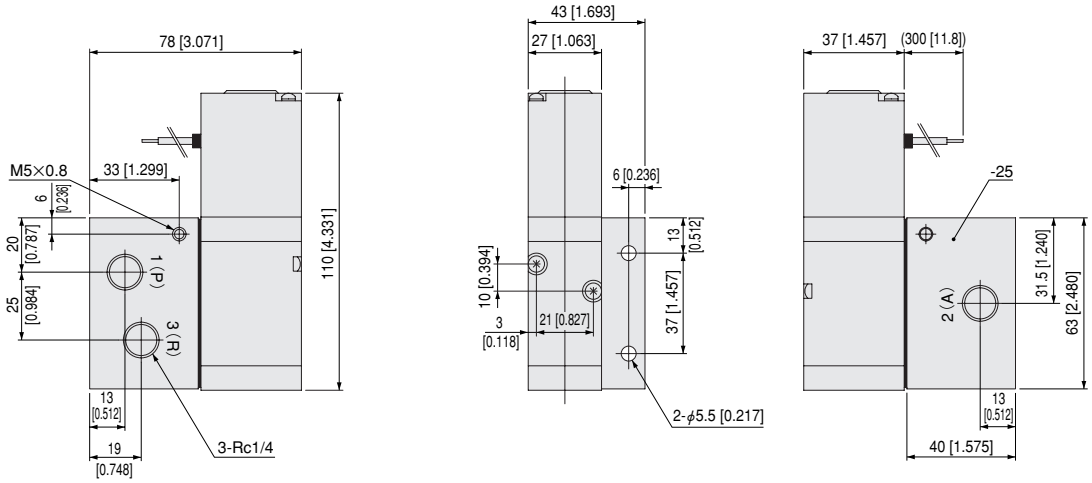
CS - BM □ □ □ □ ⋮ ⋮ □ □

Clean system 200 series manifold basic model	Number of units	Manifold model	Station	Clean system mounting valve type
CS-BM	**2** : 2 units **3** : 3 units ⋮ **10** : 10 units	**T** : T type ●For mounting 2 -, 3-port valve ●P, R port manifold Rc1/4 **F** : F type ●For mounting 5-port valve ●P, R port manifold Rc1/4 ●Valve with A and B ports for piping **A** : A type ●For mounting 5-port valve ●All ports manifold	●Valve mounting position from left, as viewed from the front **Stn.1** : First **Stn.2** : Second ⋮ **Stn.10** : 10th	● For details of valve models, see the order codes listed above. ● Enter **CS-BP** when closing a station with a block-off plate without mounting a valve.

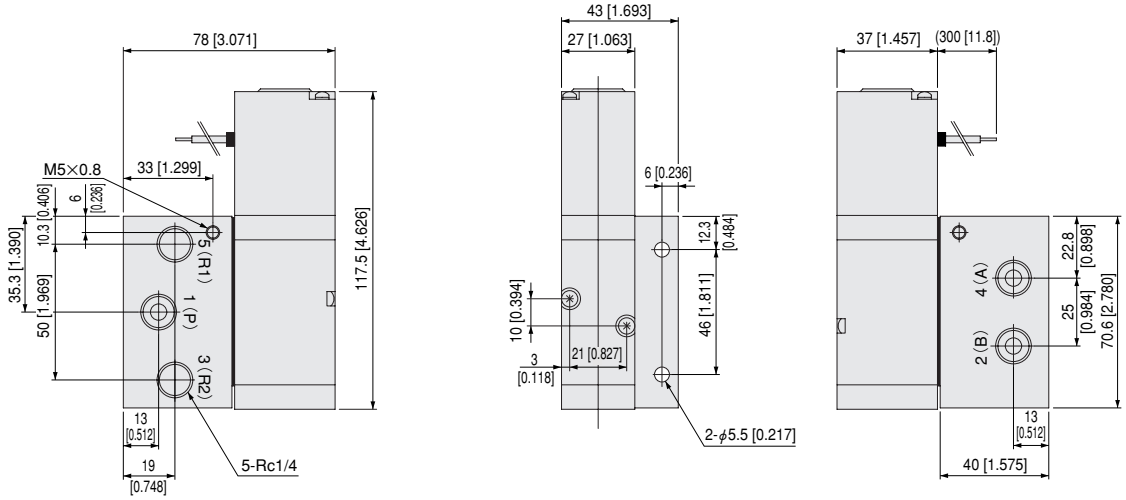
	Sub-base		Wiring type		Indicator		Flywheel diode		Voltage
	Without sub-base	With sub-base	Grommet type	DIN connector	Without indicator	With indicator	With flywheel diode	Without flywheel diode	
	Blank	**- 25**	**Blank**	**- 39**	**Blank**	**- L** ● Not available with DIN connector	**Blank**	**- SR** ● For DC24V only. For AC100V and AC200V, equipped as standard.	**DC24V** **AC100V** **AC200V**
	—— Dedicated for manifold mounting								

Dimensions of Solenoid Valve mm [in.]

●CS-A200E1-25



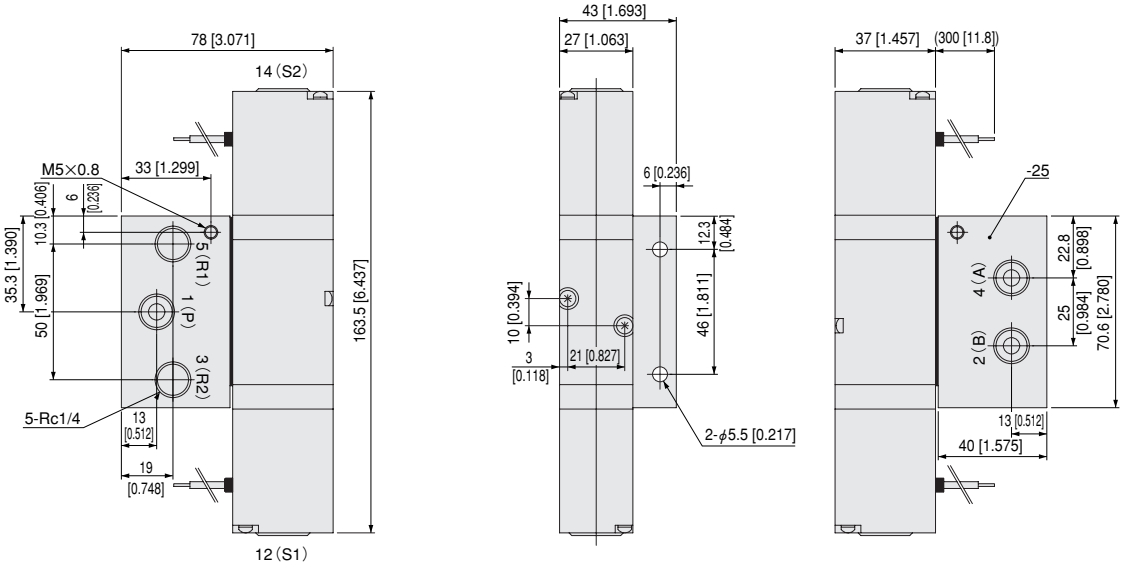
●CS-A200-4E1-25



Dimensions of Solenoid Valve mm [in.]

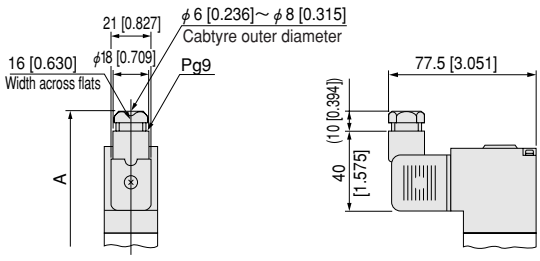
●**CS-A200-4E2-25**

●**CS-A203-4E2-25**

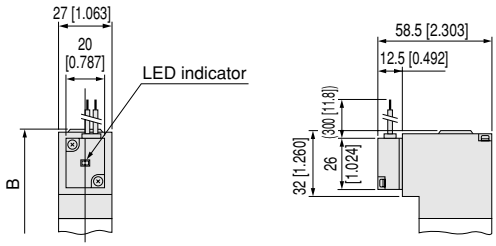


●Options

●Solenoid with DIN connector: **-39**



●Solenoid with LED indicator: **-L**

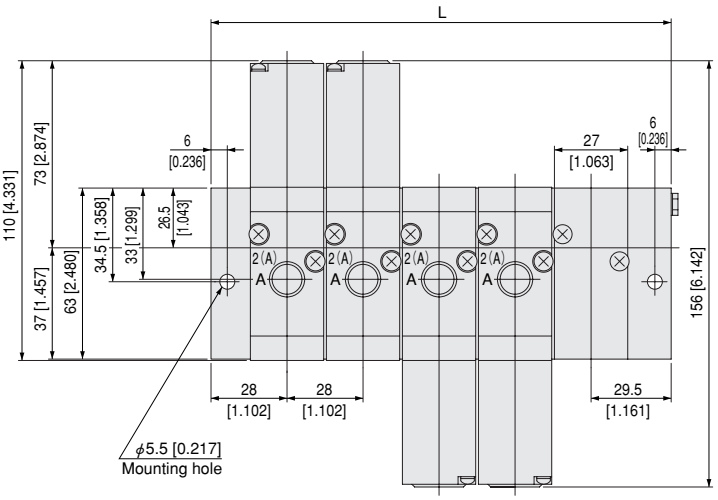


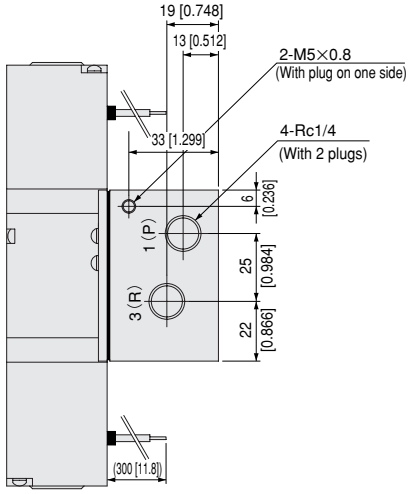
Code / Model	A	B	Remark
CS-A200E1	128 [5.039]	110 [4.331]	Overall length of the valve
CS-A200-4E1	135.5 [5.335]	117.5 [4.626]	
CS-A200-4E2	199.5 [7.854]	163.5 [6.437]	
CS-A203-4E2			

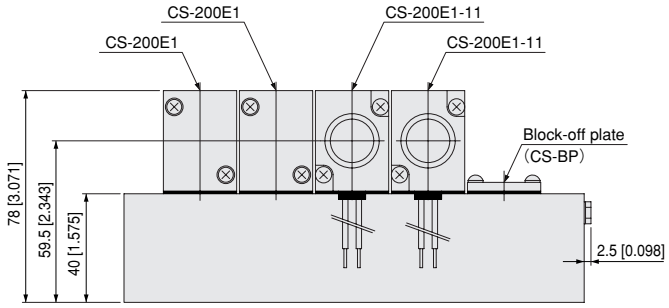
Dimensions of Manifold mm [in.]

For mounting of 2-, 3-port valves

●CS-BM□T





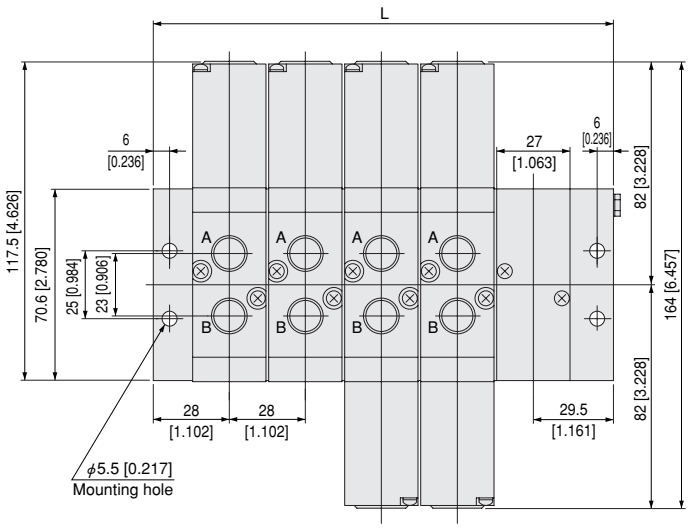


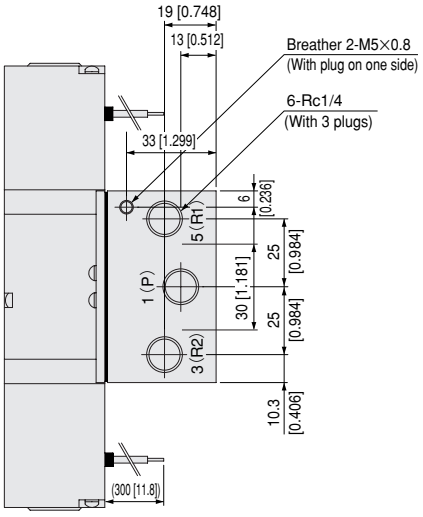
Unit dimensions

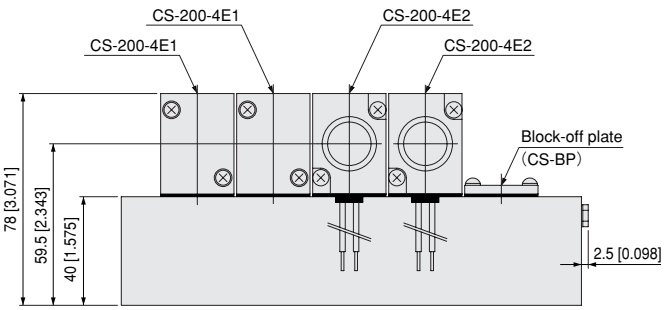
Model	L
CS-BM2T	85.5 [3.366]
CS-BM3T	113.5 [4.469]
CS-BM4T	141.5 [5.571]
CS-BM5T	169.5 [6.673]
CS-BM6T	197.5 [7.776]
CS-BM7T	225.5 [8.878]
CS-BM8T	253.5 [9.980]
CS-BM9T	281.5 [11.083]
CS-BM10T	309.5 [12.185]

For combination mounting of 2-, 3-, 5-port valves

●CS-BM□F







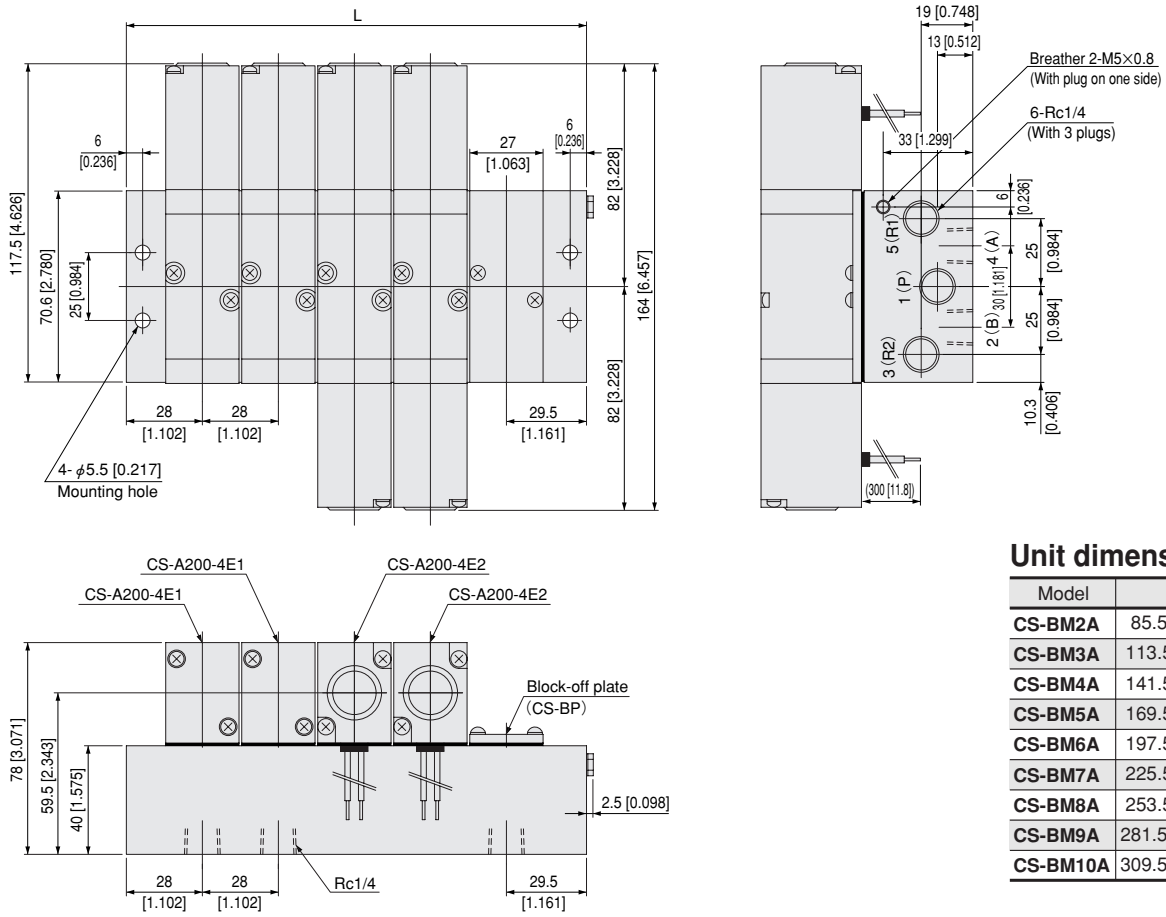
Unit dimensions

Model	L
CS-BM2F	85.5 [3.366]
CS-BM3F	113.5 [4.469]
CS-BM4F	141.5 [5.571]
CS-BM5F	169.5 [6.673]
CS-BM6F	197.5 [7.776]
CS-BM7F	225.5 [8.878]
CS-BM8F	253.5 [9.980]
CS-BM9F	281.5 [11.083]
CS-BM10F	309.5 [12.185]

Dimensions of Manifold mm [in.]

For mounting of 5-port valves

●CS-BM□A

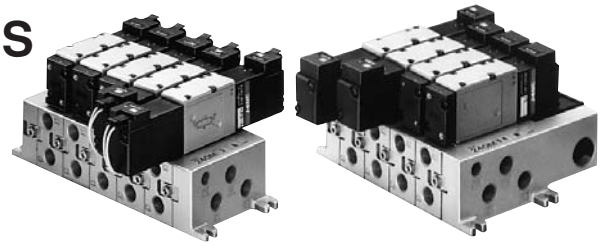


Unit dimensions

Model	L
CS-BM2A	85.5 [3.366]
CS-BM3A	113.5 [4.469]
CS-BM4A	141.5 [5.571]
CS-BM5A	169.5 [6.673]
CS-BM6A	197.5 [7.776]
CS-BM7A	225.5 [8.878]
CS-BM8A	253.5 [9.980]
CS-BM9A	281.5 [11.083]
CS-BM10A	309.5 [12.185]

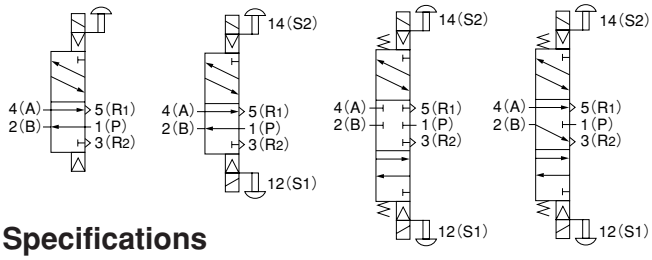
KOGANEI CLEAN SYSTEM

SOLENOID VALVES
240 SERIES



Symbols

5-port, 2-position — **Single solenoid** | **Double solenoid**; **5-port, 3-position** — **Closed center** | **Exhaust center**



Specifications

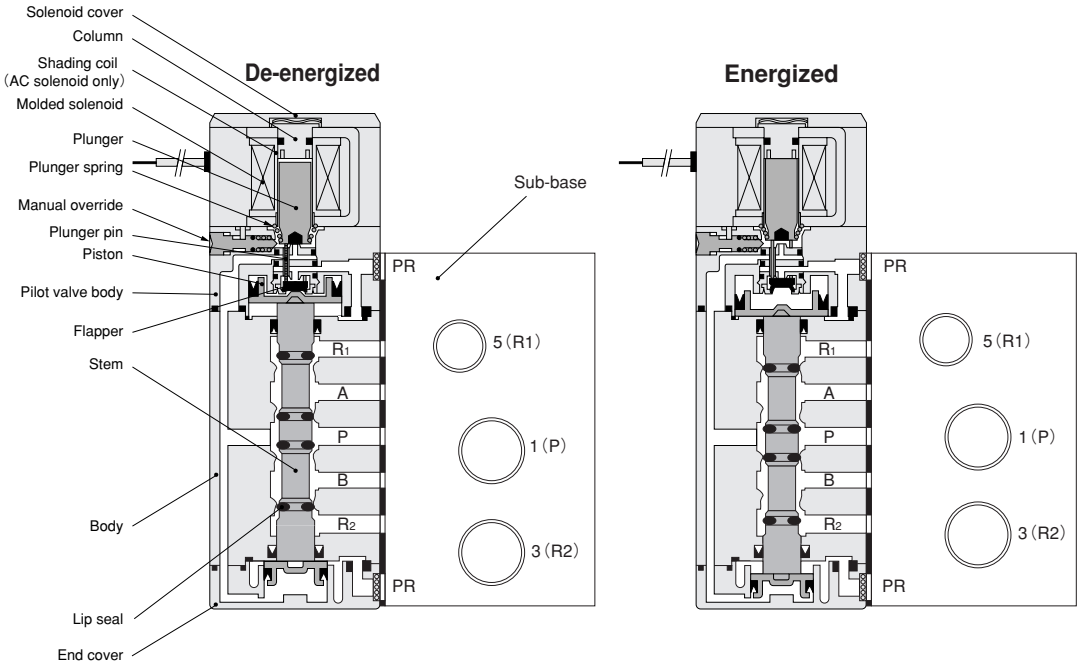
Item \ Basic model	Solenoid specification	Single solenoid	Double solenoid	3-position double solenoid
	For standard type sub-base For A type, B type manifolds	**CS-A240-4E1**	**CS-A240-4E2**	**CS-A243-4E2**
	For pug-in type sub-base For AW, BW type manifolds	**CS-W240-4E1**	**CS-W240-4E2**	**CS-W243-4E2**
Media		Air		
Operation type		Internal pilot type		
Number of positions, number of ports		2 positions, 5 ports		3 positions, 5 ports
Valve function		——		Closed center (standard) or Exhaust center (optional)
Effective area〔Cv〕 mm²		11.3〔0.62〕		11〔0.61〕
Port size		P, A, B, R : Rc 1/4, PR : Rc 1/8		
Lubrication		Not required		
Operating pressure range MPa [psi.]		0.17～0.7 [25～102]		
Proof pressure MPa [psi.]		1.05 [152]		
Operating temperature range (atmosphere and media) °C [°F]		5～50 [41～122]		
Shock resistance m/s² {G}	Lateral direction	1373.0 {140.0}		
	Axial direction	451.1 {46.0}	264.8 {27.0}	588.4 {60.0}
Mounting direction		Any		
Maximum operating frequency Hz		5		
Minimum time to energize ms		——	0.05	——
Mass g [oz.]		160 [5.64] (350 [12.35][Note 1], 400 [14.11][Note 2])	230 [8.11] (420 [14.81][Note 1], 470 [16.58][Note 2])	260 [9.17] (450 [15.87][Note 1], 500 [17.64][Note 2])

Notes: 1. Mass of CS-A24□-4E□ with sub-base.
2. Mass of CS-W24□-4E□ with sub-base.

Solenoid Specifications

Item \ Rated voltage			AC100V		AC200V		DC24V
Type			Shading type				Flywheel diode incorporated for surge suppression
Operating voltage range V			90～132 (100^{+32}_{-10}%)		180～264 (200^{+32}_{-10}%)		21.6～26.4 (24±10%)
Current (when rated voltage is applied)	Frequency Hz		50	60	50	60	—
	Starting mA (r.m.s.)		34	32	17	16	—
	Energizing mA (r.m.s.)		22	20	11	10	65(1.6W)〔75 (1.8W) with LED indicator〕
Allowable leakage current mA			4		2		4
Insulation resistance MΩ			Over 100				
Wiring type	Standard type	Standard	Grommet type: 300mm [11.8in.]				
		Optional	Plug connector type Straight connector -PSL: 300mm [11.8in.]※ -PSNL: Without lead wire (connector, contacts included) L connector -PLL: 300mm [11.8in.]※ -PLNL: Without lead wire (connector, contacts included) ※**-1L:** 1000mm [39in.], **-3L:** 3000mm [118in.] also available as options.				
	Plug-in type		Terminal type (Sub-base comes with conduit cover, and manifold with terminal cover)				
Color of lead wire			Yellow		White		Red (+), Black (—)
Color of LED indicator (optional)			Yellow		Green		Red
Surge suppression			Built-in varistor (optional)				Flywheel diode (as standard)

CS-A240-4E1-25



Major Parts and Materials

Parts	Materials
Body	Aluminum alloy (anodized)
Stem	
Lip seal	Synthetic rubber (NBR)
Flapper	
Sub-base	Aluminum alloy (anodized)
Plunger	Magnetic stainless steel
Column	

Order Codes

CS - A240 - 4E1 – □ – □ – □ – □ – □

Clean system 240 series valve basic model		Valve function		Sub-base					Manual override
		Closed center (standard)	Exhaust center	Without sub-base	Side piping standard type	Side piping plug-in type	Side and bottom piping standard type	Side and bottom piping plug-in type	Non-locking type (standard)
●For sub-base-mounted units (cannot be used for units without sub-base) ●For A type manifold	**CS - A240 - 4E1** 5-port	——	——	**Blank**	**- 25**	——	**- 27**	——	**Blank**
	CS - A240 - 4E2 5-port								
	CS - A243 - 4E2 5-port	**Blank**	**- 13**						
●For plug-in type sub-base-mounted single unit (cannot be used for units without plug-in sub-base) ●For W type manifold	**CS - W240 - 4E1** 5-port	——	——		——	**- 26**	——	**- 28**	
	CS - W240 - 4E2 5-port								
	CS - W243 - 4E2 5-port	**Blank**	**- 13**			——		——	

Note: Varistor for surge suppression is available for AC100V and AC200V only (flywheel diode for surge suppression is standard equipment for DC24V).
A varistor for surge suppression is built into AC100V and AC200V with LED indicator.

Manifold Order Codes

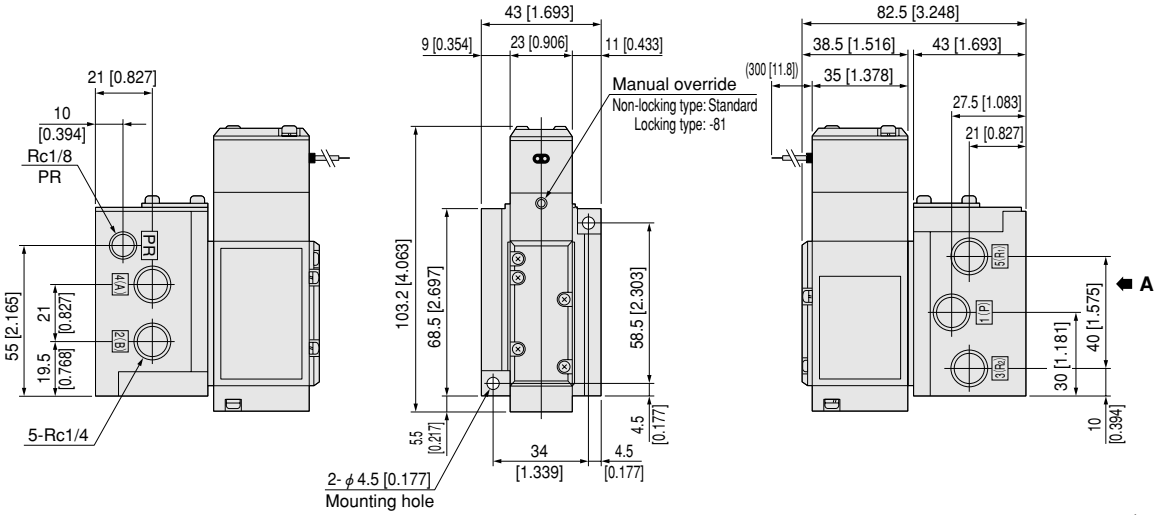
CS - 240M □ □ □ □ ⋮ ⋮ □

Clean system 240 series manifold basic model	Number of units	Manifold model	Station	Clean system mounting valve type
CS-240M	**2** : 2 units **3** : 3 units ⋮ **10** : 10 units	**A** : A type ●All ports manifold **B** : B type ●Bottom ported all ports manifold **AW** : AW type ●Plug-in type all ports manifold **BW** : BW type ●Plug-in type and bottom ported all ports manifold	●Valve mounting position from left, as viewed from the front **Stn.1** : First **Stn.2** : Second ⋮ **Stn.10** : 10th	● For details of valve models, see the order codes listed above. ● Enter **CS-BP** when closing a station with a block-off plate without mounting a valve.

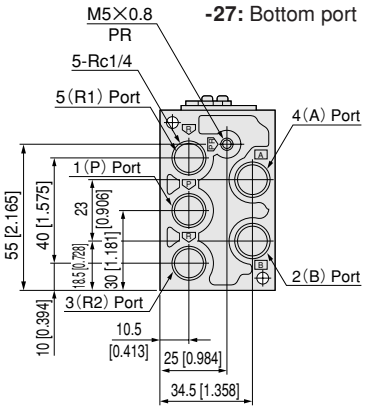
	Solenoid options										Voltage
	Locking type	Grommet type (standard)	Grommet with built-in varistor for surge suppression Note	DIN connector type	Straight connector with LED indicator		L connector with LED indicator		Plug-in type (standard)	Plug-in type with LED indicator	Plug-in type with built-in varistor for surge suppression type Note	
					With lead wire	Without lead wire	With lead wire	Without lead wire				
	- 81	**Blank**	**- ZR**	**- 39**	**- PSL**	**- PSNL**	**- PLL**	**- PLNL**	——	——	——	**DC24V AC100V AC200V**
	——											
	- 81											
	- 81	——	——	——	——	——	——	——	**Blank**	**- L**	**- ZR**	
	——											
	- 81											

Dimensions of Solenoid Valve mm [in.]

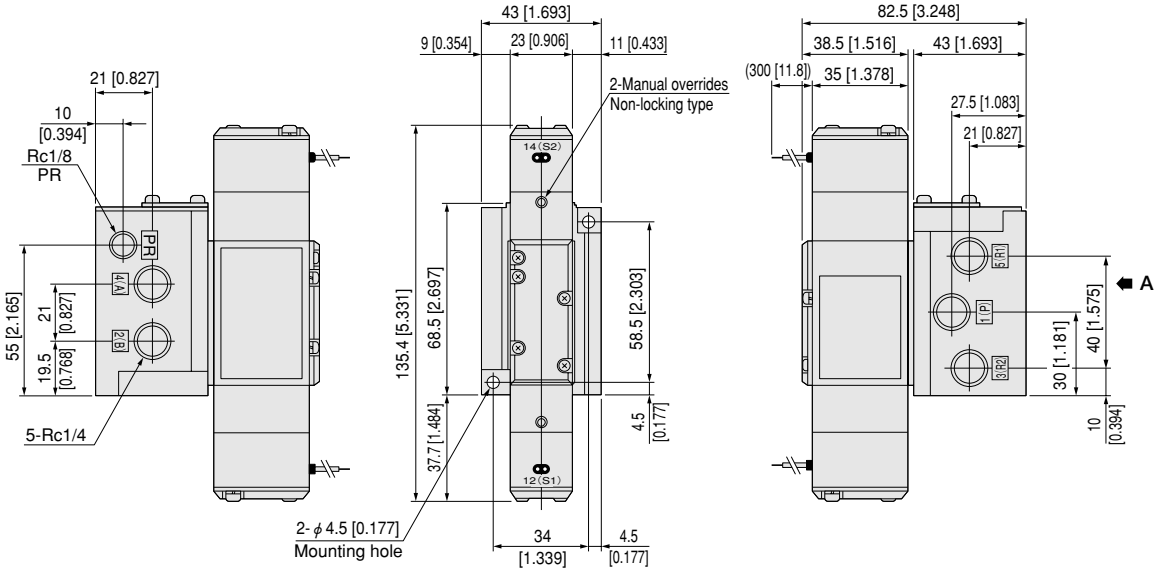
●CS-A240-4E1-25
●CS-A240-4E1-27



〈Viewed from **A**〉
-27: Bottom port

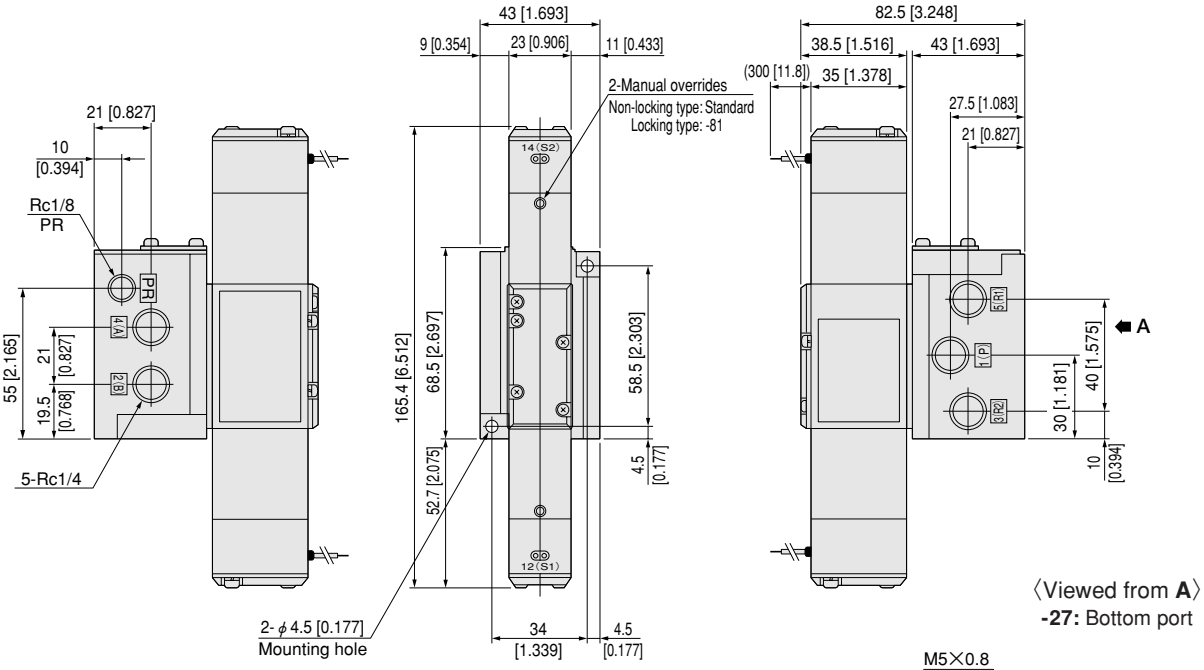


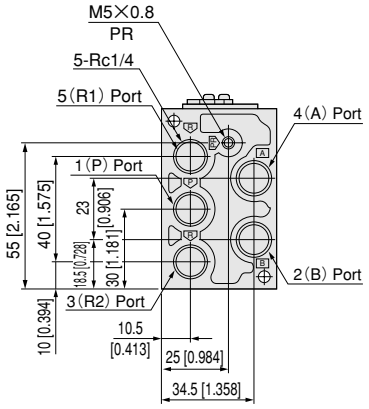
●CS-A240-4E2-25
●CS-A240-4E2-27



Dimensions of Solenoid Valve mm [in.]

●CS-A243-4E2-25
●CS-A243-4E2-27

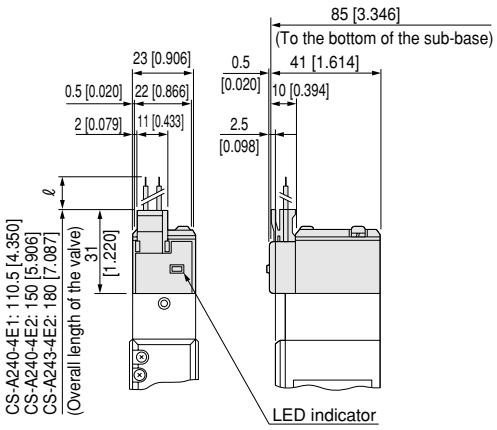




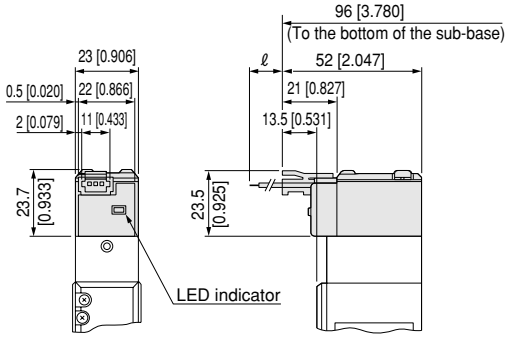
●Options

●Dimensions for the solenoid with built-in varistor for surge suppression are the same as for the standard product.

●Straight connector with LED indicator: **-PS(N)-L**

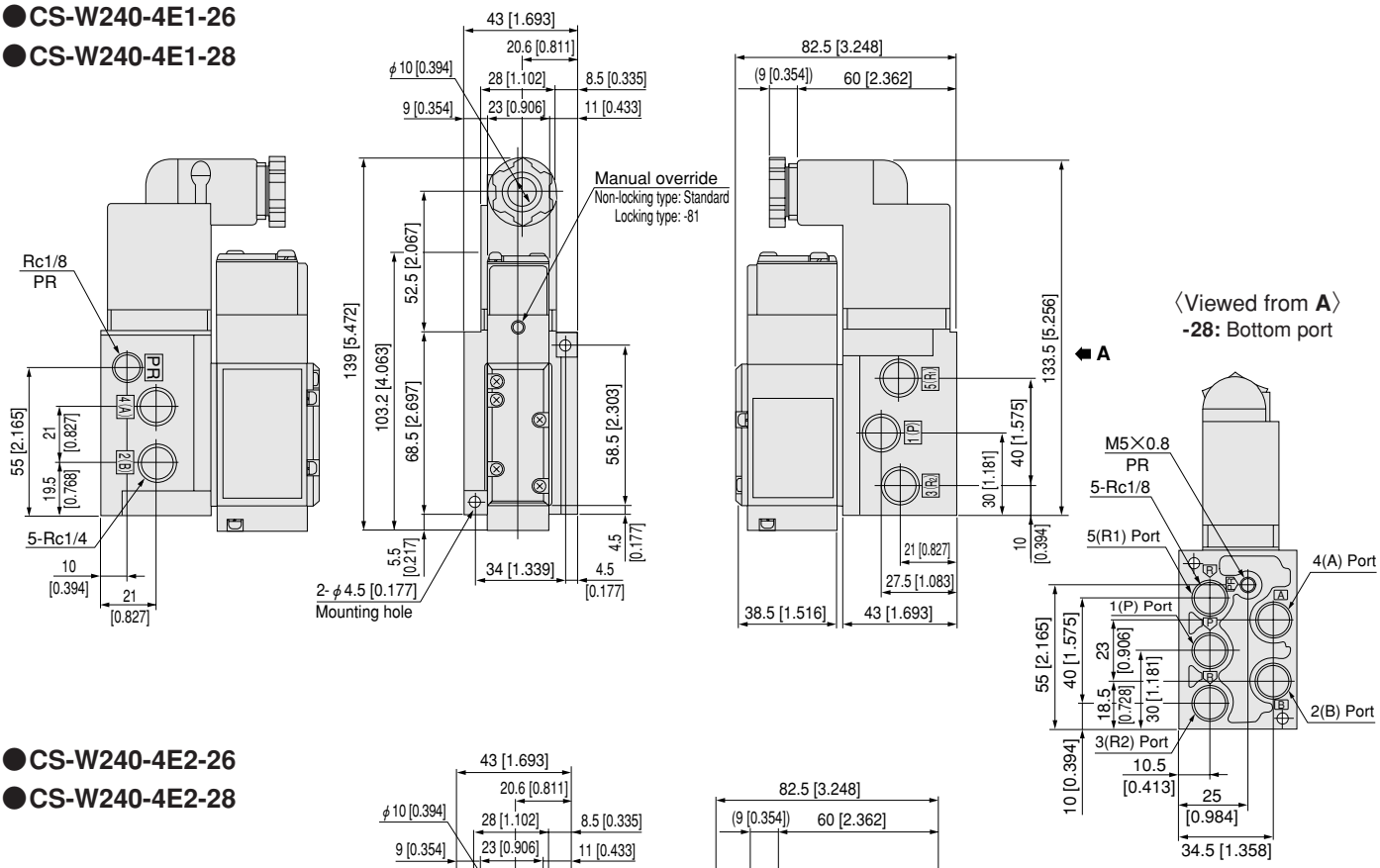


●L connector with LED indicator: **-PL(N)-L**

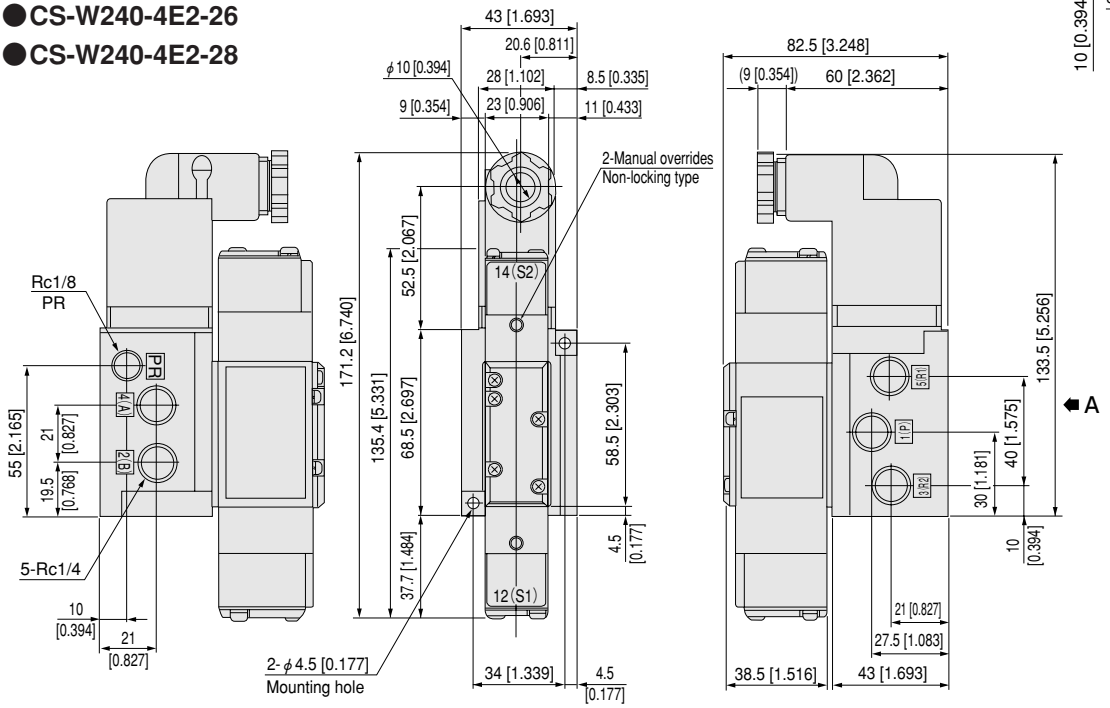


Dimensions of Solenoid Valve mm [in.]

●CS-W240-4E1-26
●CS-W240-4E1-28

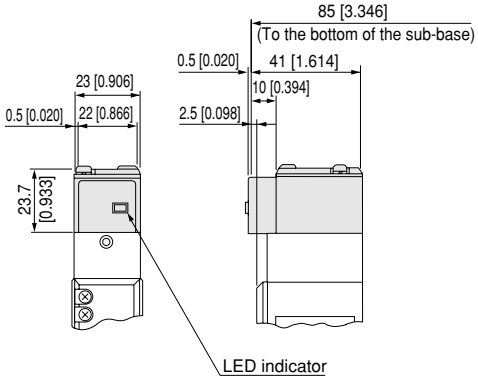


●CS-W240-4E2-26
●CS-W240-4E2-28



●Option

●With LED indicator: **-L**

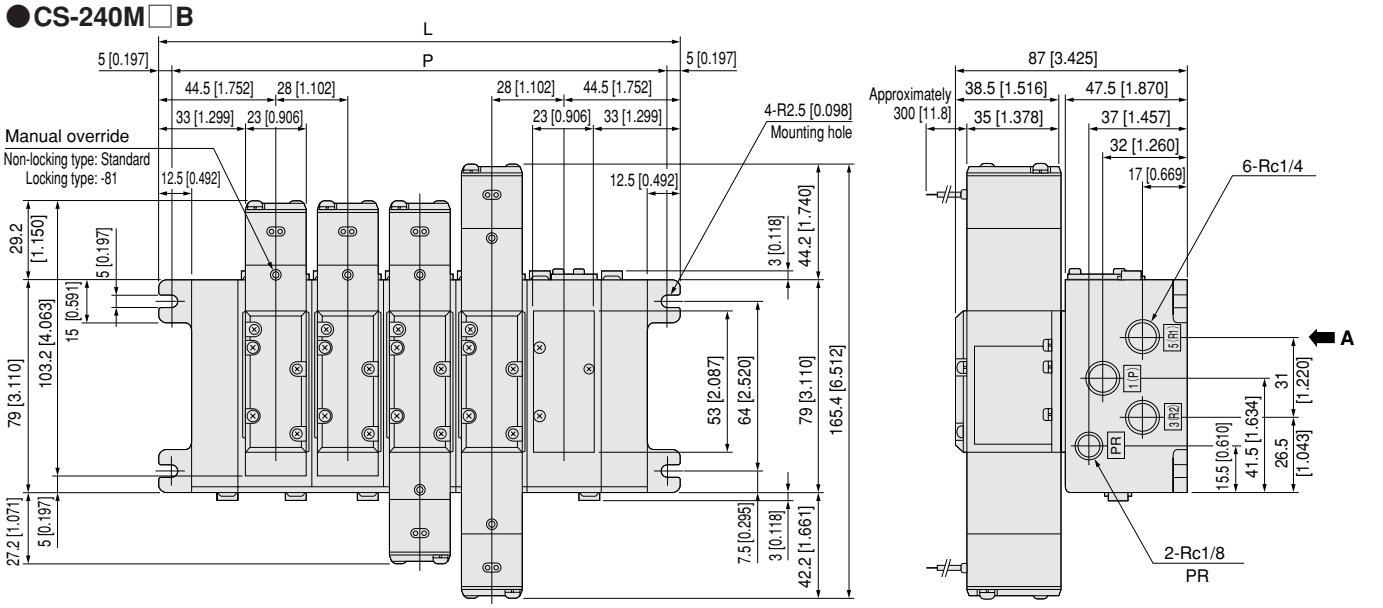


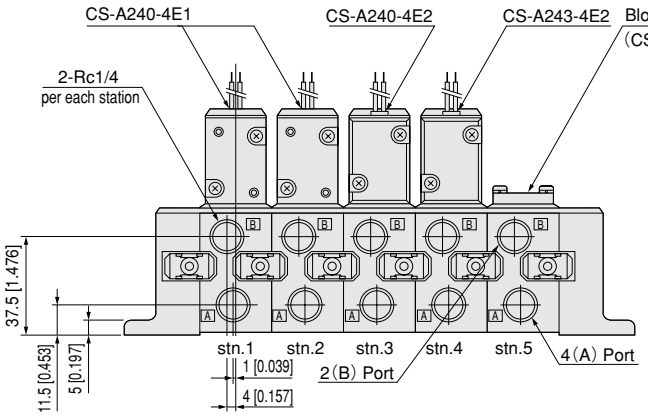
● Plug-in type with built-in varistor for surge suppression: **-ZR**
Dimensions are the same as the standard product.

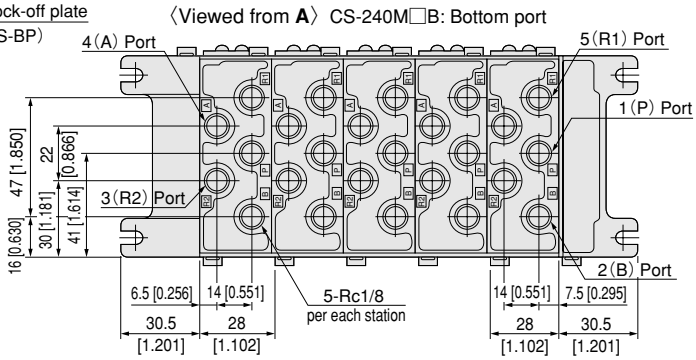
Dimensions of Manifold 5-Port mm [in.]

●CS-240M□A

●CS-240M□B





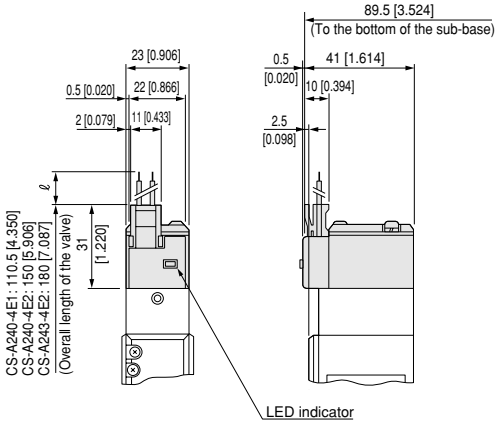


Unit dimensions

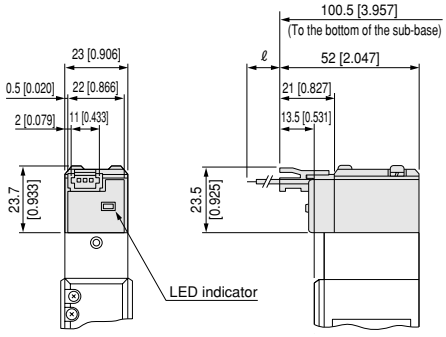
Model	P	L
CS-240M2A, CS-240M2B	107 [4.213]	117 [4.606]
CS-240M3A, CS-240M3B	135 [5.315]	145 [5.709]
CS-240M4A, CS-240M4B	163 [6.417]	173 [6.811]
CS-240M5A, CS-240M5B	191 [7.520]	201 [7.913]
CS-240M6A, CS-240M6B	219 [8.622]	229 [9.016]
CS-240M7A, CS-240M7B	247 [9.724]	257 [10.118]
CS-240M8A, CS-240M8B	275 [10.827]	285 [11.220]
CS-240M9A, CS-240M9B	303 [11.929]	313 [12.323]
CS-240M10A, CS-240M10B	331 [13.031]	341 [13.425]

●Options

●Straight connector with LED indicator: **- PS(N) - L**

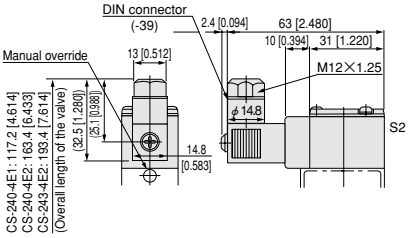


●L connector with LED indicator: **- PL(N) - L**



●With built-in varistor for surge suppression: **-ZR**
Dimensions are the same as the standard product.

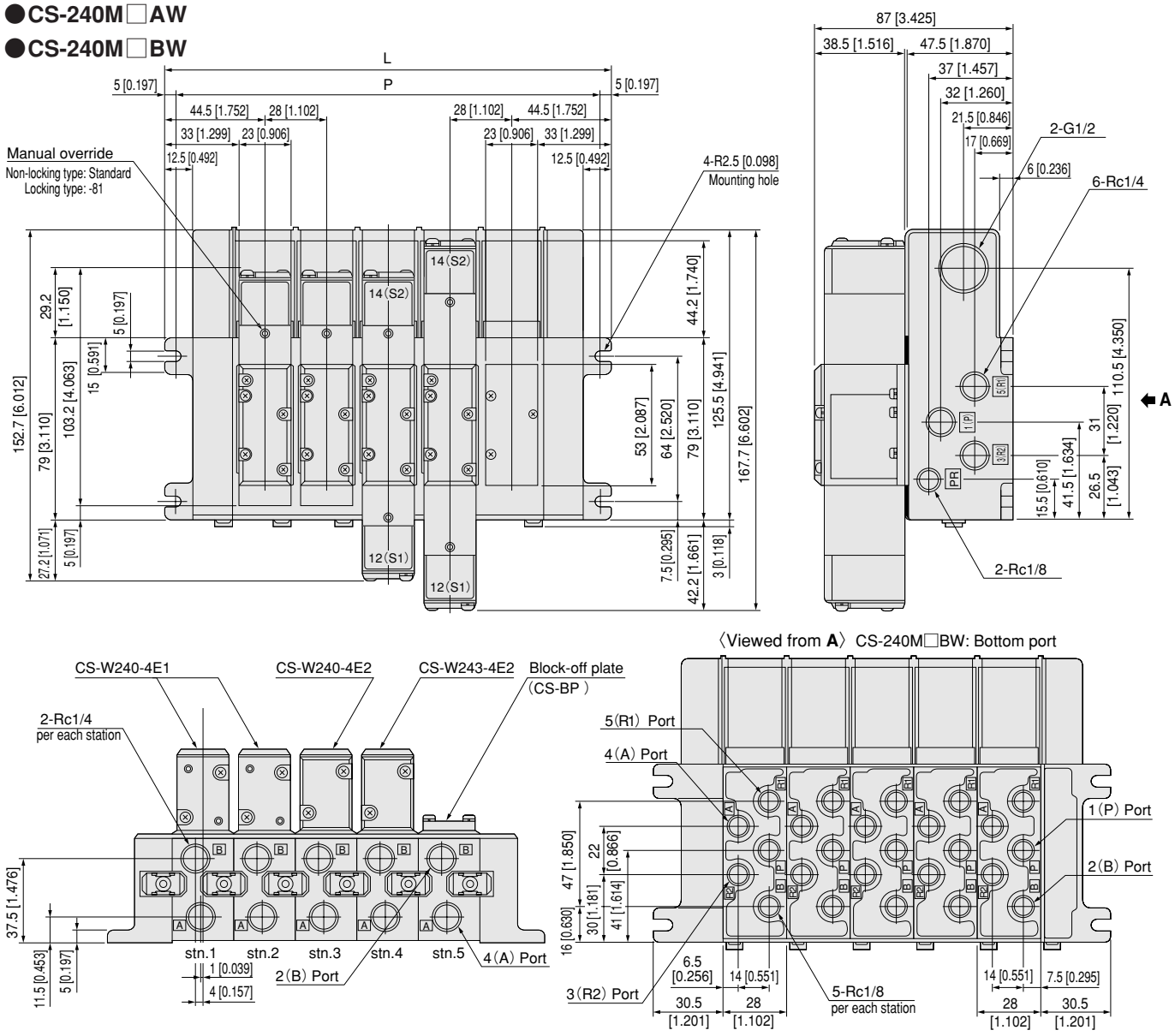
●DIN connector: **-39**



Dimensions of Manifold 5-Port mm [in.]

●**CS-240M□AW**

●**CS-240M□BW**

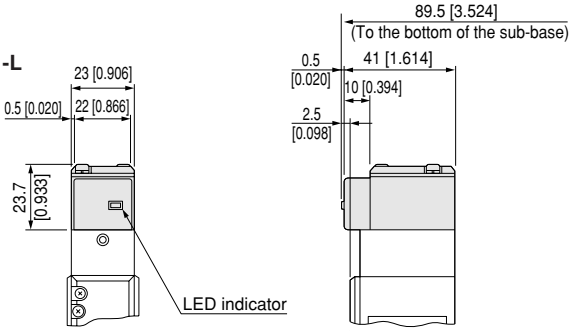


Unit dimensions

Model	P	L
CS-240M2AW, CS-240M2BW	107 [4.213]	117 [4.606]
CS-240M3AW, CS-240M3BW	135 [5.315]	145 [5.709]
CS-240M4AW, CS-240M4BW	163 [6.417]	173 [6.811]
CS-240M5AW, CS-240M5BW	191 [7.520]	201 [7.913]
CS-240M6AW, CS-240M6BW	219 [8.622]	229 [9.016]
CS-240M7AW, CS-240M7BW	247 [9.724]	257 [10.118]
CS-240M8AW, CS-240M8BW	275 [10.827]	285 [11.220]
CS-240M9AW, CS-240M9BW	303 [11.929]	313 [12.323]
CS-240M10AW, CS-240M10BW	331 [13.031]	341 [13.425]

●Option

●With LED indicator: **-L**



●Plug-in type with built-in varistor for surge suppression: **-ZR**
Dimensions are the same as the standard product.

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