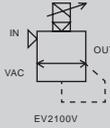


Electro pneumatic regulator (solenoid valve vacuum compatible)

EV2100V Series



JIS symbol



Overview

For electro pneumatic regulator EV2100V Series, feedback control with semiconductor pressure sensor and electronic control circuit is used to enable continuous and precise vacuum control with electric signals.

Features

- Compact and lightweight
- Enabling module
- Non-bleeding
- Pressure relief
- Precise/quick response
- Manifold available
- Various input signal
- Easy wiring
- Pressure monitor available
- Equivalent to degree of protection IP64

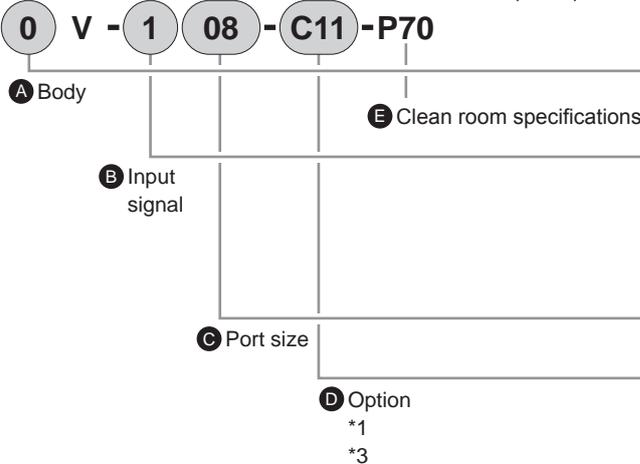
Specifications

Descriptions	EV2100V	EV2109V
Working fluid	Air (according to the recommended air circuit on page 869)	
Working pressure range	-96 kPa to -101.3 kPa	
Proof pressure	Inlet side	196 kPa
	Outlet side	196 kPa
Guaranteed pressure accuracy range *5	-10.1kPa to -91.2kPa (10 to 90% F.S.)	
Power supply voltage	24 VDC ± 10% (stabilized power supply with ripple rate 1% or less)	
Current consumption	0.1 A or less (0.6 A rush current when the power is turned ON)	
Input signal (input impedance)	0-10 VDC (20 kΩ)	0-5 VDC (10 kΩ)
	4-20 mADC or 1-5 VDC (250 Ω) *1	10 kΩ variable resistance or 0-10 VDC (20 kΩ)
Analog output	1-5 VDC (none for 10 kΩ variable resistance input)	
Hysteresis	1% F.S. or less *2	
Linearity	±0.5% F.S. *2	
Resolution	0.5% F.S. or less *2	
Repeatability	0.5% F.S. or less *2	
Temperature characteristics	Zero drift	0.15% F.S./°C or less
	Span drift	0.07% F.S./°C or less
Max. flow rate (ANR)	150 l/min	120 l/min
Step response	No load	0.6 sec or less
	*3 1 l load	2.0 sec or less
Mechanical vibration proof	98 m/s ² or less (JIS C60068-2-6)	
Ambient temperature	5 to 50°C	
Degree of protection	IP64 or equivalent (body), IP67 (cable connector) *4	
Port size	Rc1/4	
Weight (main body)	300 g	320 g

- *1: When 1-5 VDC signal voltage is used, 4-20 mA current enters from the signal source to EV. Confirm specifications of the signal source before use.
- *2: The condition of the values above is: Working pressure range -96.0 to -101.3 kPa, 24 ± 0.1 VDC power supply voltage, 25 ± 3°C ambient temperature, no load, and 10 to 90% control pressure. Limited to a closed circuit in the secondary side. If used with opening secondary side, vacuum pressure would lower or change.
- *3: Working pressure: -100 kPa, step rate: 50% F.S. → 90% F.S.
50% F.S. → 60% F.S.
50% F.S. → 40% F.S.
- *4: The degree of protection of body IP64 is applied only when installed with facing connector upward. Characteristics above is within working pressure range. If used exceeding working pressure range, please contact CKD.
- *5: There is a residual pressure of 0 to -5 kPa when the input signal is 0%. Refer to the input/output characteristics graph (page 864).

How to order

EV210 0 V - 1 08 - C11 - P70



Code	Content
A Body	
0	Discrete
9	A single manifold
B Input signal	
0	0-10 VDC
1	0-5 VDC
2	4-20 mA or 1-5 VDC
3	10 kΩ variable resistance or 0-10 VDC (connected to 10 VDC built-in power supply)
C Port size	
08	Rc1/4
D Option	
Cable option	
Blank	None
C11	1 m attached
C13	3 m attached
Intake option	
Blank	Intake block 1
K1	Intake block 2
Bracket option	
Blank	None
B4	B bracket
T	T bracket
E Clean room specifications	
Structure	
P70	Exhaust treatment

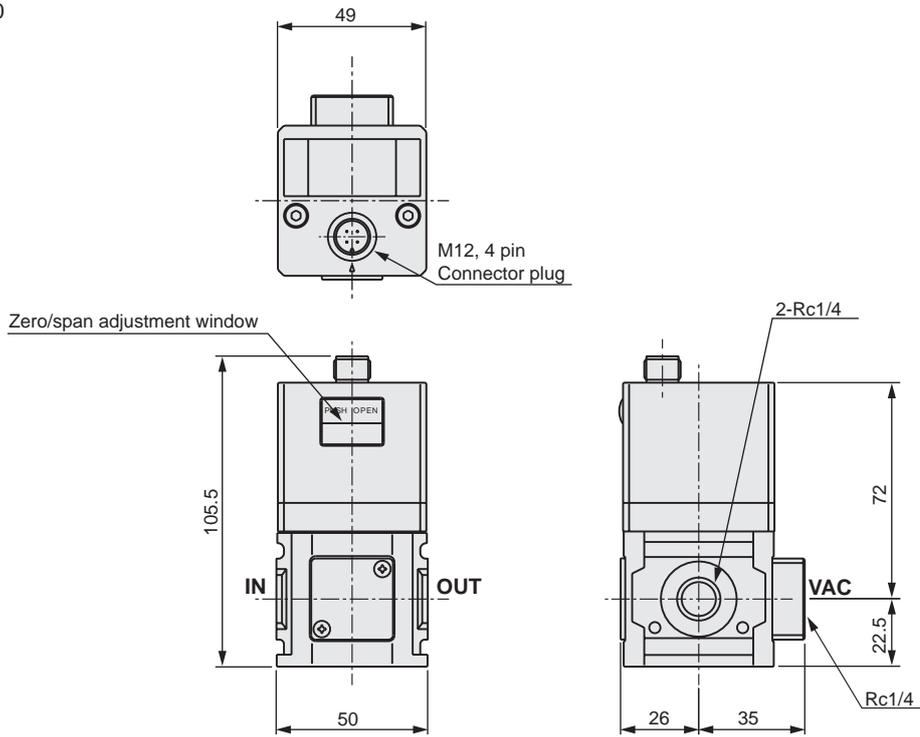
Note on selection guide

- *1: Model No. only with an option can be expressed by the following: EV2000 - **Option code** - P70.
- *2: However, combination of optional "intake block 1" and "T bracket" is not available.
- *3: The bracket option B4 cannot be used when using the EV2109V (manifold).

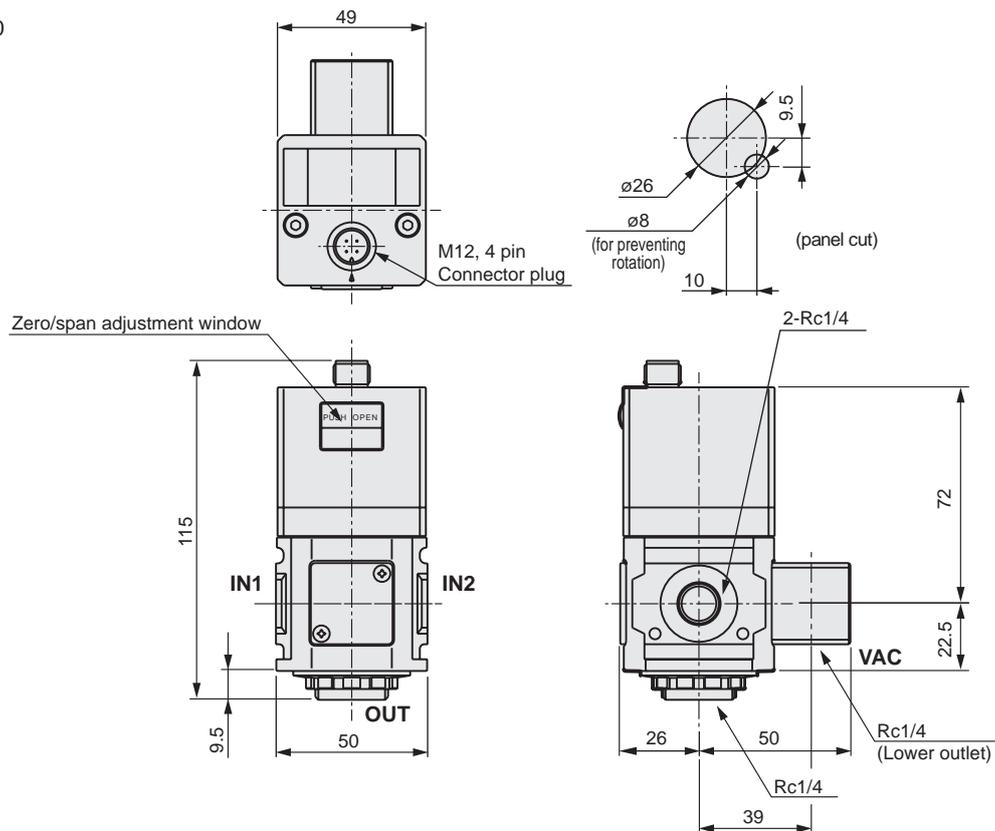
Dimensions



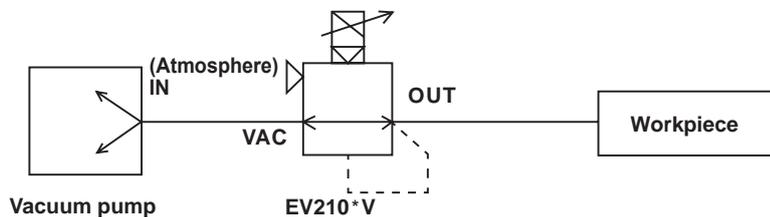
● EV2100V-P70



● EV2109V-P70



Connection



* Refer to the cautions (recommended circuit) on page 889 for details.

SCPD3

SCM

SSD2

MDC2

SMG

LCM

LCR

LCG

LCX

STM

STG

STR2

MRL2

GRC

Cylinder Switch

MN3E

MN4E

4GA/B

M4GA/B

MN4GA/B

F.R.(module unit)

Clean F.R

Precision R

Press gauge

Dif. press gauge

Electro-pneumatic R

Speed controller

Auxiliary valve

Fitting/tube

Clean air unit

Pressure sensor

Flow rate sensor

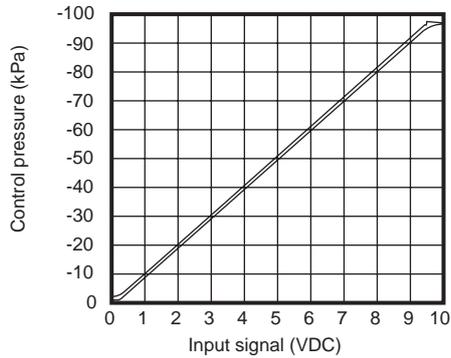
Valve for air blow

Ending

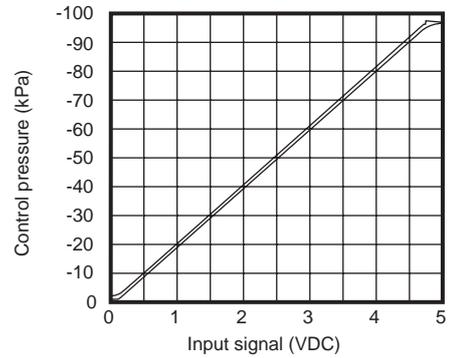
SCPD3
SCM
SSD2
MDC2
SMG
LCM
LCR
LCG
LCX
STM
STG
STR2
MRL2
GRC
Cylinder switch
MN3E MN4E
4GA/B
M4GA/B
MN4GA/B
F.R. (module unit)
Clean F.R
Precision R
Press gauge Diff. press gauge
Electro-pneumatic R
Speed controller
Auxiliary valve
Fitting/tube
Clean air unit
Pressure sensor
Flow rate sensor
Valve for air blow
Ending

I/O characteristics

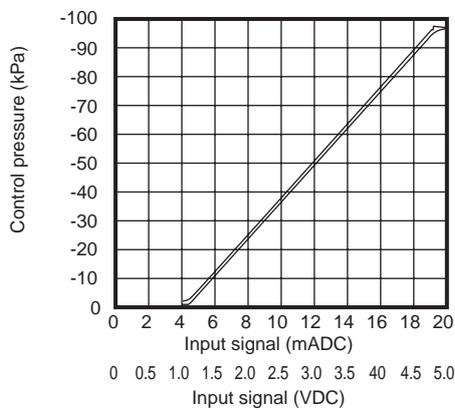
● Input signal 0-10 VDC



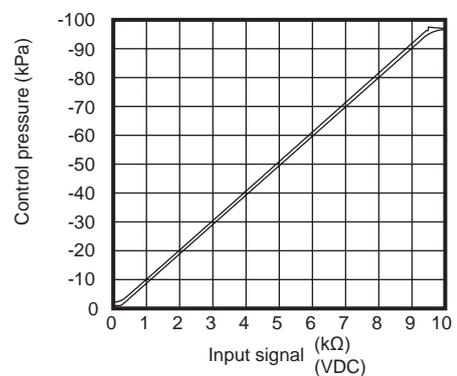
● Input signal 0-5 VDC



● Input signal 4-20 mA DC or 1-5 VDC

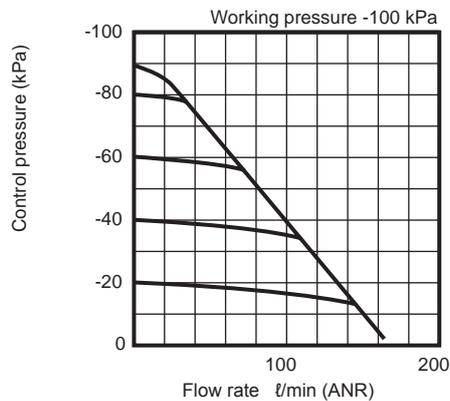


● Input signal 10 kΩ variable resistance or 0-10 VDC

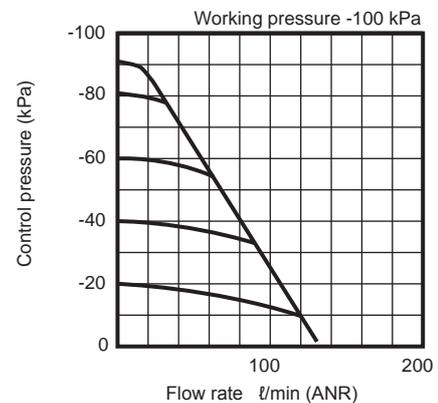


Flow characteristics

● EV2100V

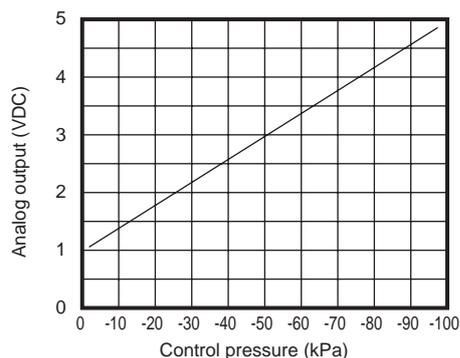


● EV2109V



Analog output

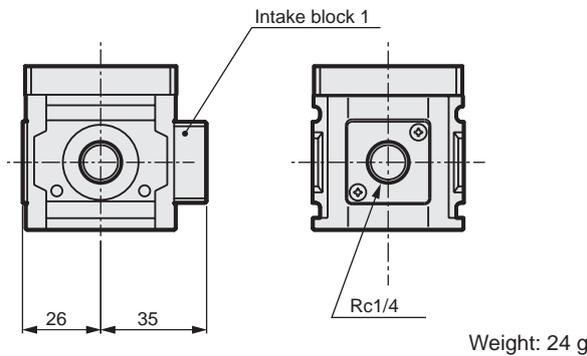
● EV2100V, EV2109V



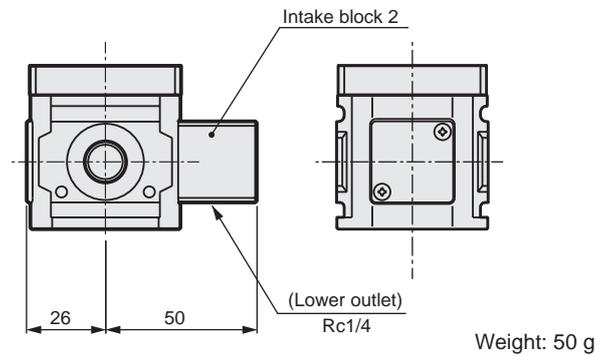
Option models

Optional embedded intake

● Standard (blank)

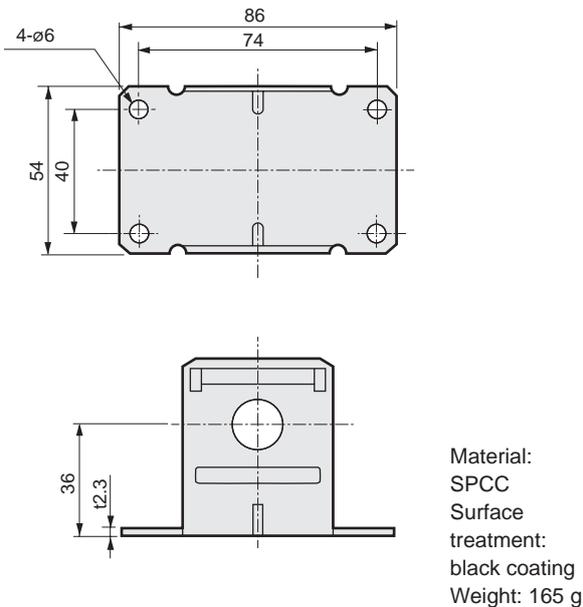


● -K1

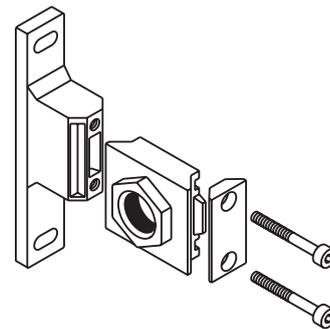


Bracket option

● Floor mounted **-B4 (B bracket)



● Wall mounted **-T (T bracket)

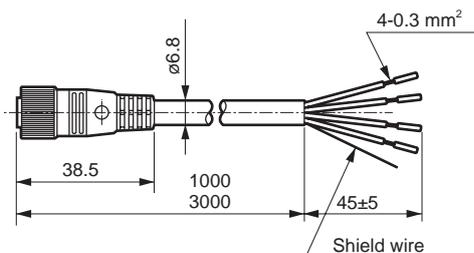


* O-ring and gasket are supplied.

Note: Refer to page 803 for dimensions of T bracket.

Weight: 135 g

Cable option



-C1* Shield/cable/connector

* Pin No.	Isolator color	Applications	Type of input signal				Weight g
			0-10 V	0-5 V	4-20 mA 1-5 V	10 kQVR (0-10 V)	
1	Red	Power supply ⊕	24 V				C11: 79 C13: 212
2	Green	-	Analog output 1-5 V		VR input terminal		
3	Black	Common	0 V		VR input terminal 0 V		
4	White	Input signal	0-10 V	0-5 V	4-20 mA 1-5 V	VR output terminal (0-10 V)	

If a cable connector is not used, following recommended cable sockets can be used.
Anyway, use a shield wire cable.

Screw fixing ELW1KA4012 Correns (Hirschmann)
Axial (solder) XS2C-D421 Omron
Radial (solder) XS2C-D422 Omron

SCPD3

SCM

SSD2

MDC2

SMG

LCM

LCR

LCG

LCX

STM

STG

STR2

MRL2

GRC

Cylinder
Switch

MN3E
MN4E

4GA/B

M4GA/B

MN4GA/B

F.R.(module
unit)

Clean
F.R

Precision
R

Press gauge
Diff. press gauge

Electro-
pneumatic R

Speed
controller

Auxiliary
valve

Fitting/
tube

Clean
air unit

Pressure
sensor

Flow rate
sensor

Valve for
air blow

Ending