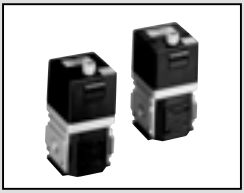


Electro pneumatic regulator (solenoid valve type medium flow rate)

EV2500 Series

Miniature size (1/2 CKD comparison), light weight (1/3 CKD comparison)
High precision air pressure proportional control valve enabling ultimate space saving of device.

CAD DATA AVAILABLE.

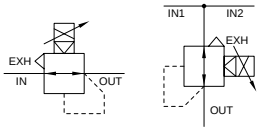
Overview

In this electro pneumatic regulator EV2000 series, feedback control with semiconductor pressure sensor and electronic control circuit is used. Using electric signals, continuous and precise air pressure control are achieved.

Features

- **Small / light weight**
- **Compact modular design**
- **Non-bleeding**
- **High relief**
- **High precision / high speed response**
- **Manifold type available**
- **Embedding type option**
- **Various input signal**
- **Push in wiring**
- **Pressure monitor available.**
- **Equivalent to protective structure IP64**
- **Common exhaust**

JIS symbol



Specifications

Descriptions		EV2500	EV2509
Working fluid		Clean compressed air (refer to Page 493 for recommended air circuits.)	
Max. working pressure		0.7MPa	
Min. working pressure		Control pressure +0.05MPa	
Withstanding pressure	(Inlet side)	1.05MPa	
	(Output side)	0.75MPa	
Control pressure range		0 to 0.49MPa	
Power voltage		DC24V ±10% (ripple ratio 1 % or less, safety power supply)	
Current consumption		0.1A or less (rush current 0.6A at power ON)	
Input signal (Input impedance)		0-10V DC (20kΩ) 0-5V DC (10kΩ) 4-20mA DC or 1-5V DC (250Ω) Note 1	10kΩ varia. resis. or 0-10V DC (20kΩ)
Monitor output		1- 5V DC (none for 10kΩ variable resistance input)	
Hysteresis		1%F.S. or less Note 2	
Linearity		±0.5%F.S. or less Note 2	
Resolution		0.5%F.S. or less Note 2	
Repeatability		0.5%F.S. or less Note 2	
Temperature characteristics	(Zero point variation)	0.15%F.S./ °C or less	
	(Span variation)	0.07%F.S./ °C or less	
Max. flow rate (ANR)		800 ℓ/min	
Step response Note 3	(Loadless)	0.6s or less	
	(1ℓ load)	0.6s or less	
Mechanical vibration proof		98m/S² or less (JIS C0040)	
Ambient temperature		5 to 50 °C	
Protection structure		Equivalent to IP64 (main body), IP67 (cable connector) Note 4	
Port size		Rc1/4	
Mass (main body)		300g	320g

Note 1: When used with signal voltage 1-5V DC, 4-20 mA of current flows into inside of EV from the signal source. Confirm specifications of the signal source before starting use.

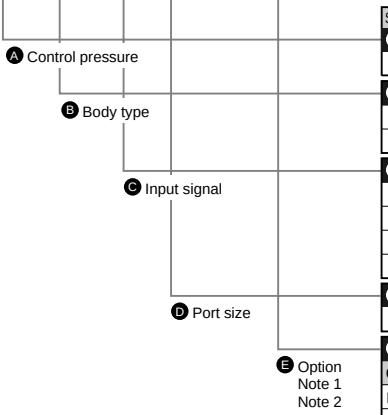
Note 2: Above characteristics are values where power voltage is 24V DC, and working pressure range is 0.54 to 0.7MPa. Also, limited to a closed circuit in the secondary side, and the pressure may vary if used as air blow, etc.

Note 3: Working pressure: Max. working pressure, step rate: 50%F.S. → 100%F.S. / 50%F.S. → 60%F.S. / 50%F.S. → 40%F.S.

Note 4: Protective stucture IP64 is applied only when installed with facing connector upward.

How to order

EV2 5 0 0 – 0 08 – C11E2B

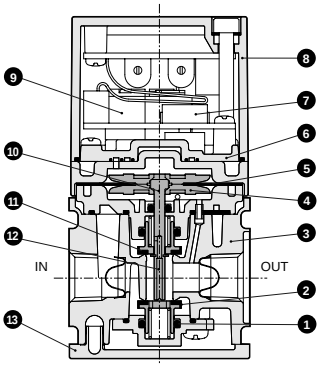


Symbol	Descriptions
Ⓐ Control pressure	
5	0-0.49MPa
Ⓑ Body type	
0	Discrete
9	Manifold discrete
Ⓒ Input signal	
0	0-10V DC
1	0-5V DC
2	4-20mA DC or 1-5V DC
3	10kΩ variable resistance or 0-10V DC (connection integrated 10V DC power supply)
Ⓓ Port size	
08	Rc1/4
Ⓔ Option	
Cable option	
Blank	None
C11	1m attached
C13	3m attached
Exhaust option	
Blank	Rc1/4 port
E1	With 8 dia. push in joint
E2	With silencer
Bracket option	
Blank	None
B	C type bracket attached
B4	B type bracket attached

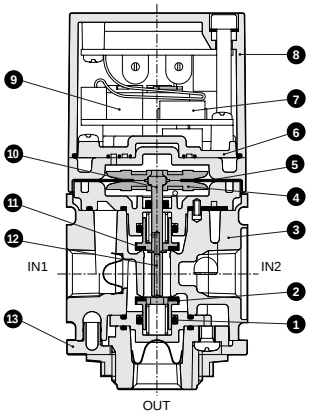
Note 1: Piping adapter can be used for Rc3/8 or larger, but B type / C type bracket can not be used.
Note 2: Part no. for option is EV2000-option symbol .

Internal structure and parts list

• EV2500



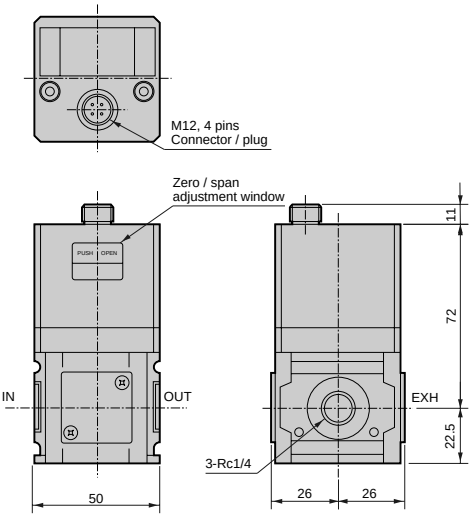
• EV2509



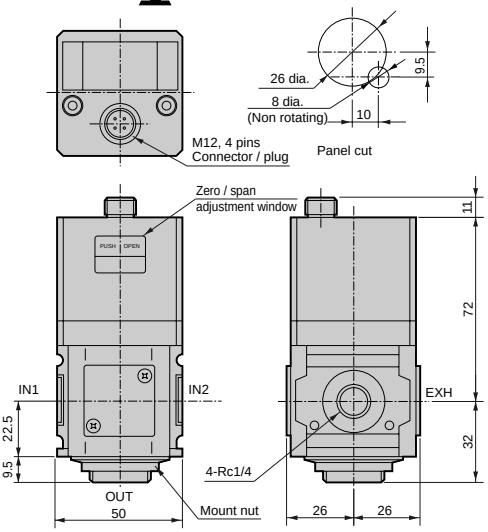
No.	Parts name	Material	No.	Parts name	Material
1	O ring	Fluoro rubber	8	Housing	ABS resin
2	Bottom valve	Brass and special nitrile rubber	9	3 way valve	
3	Body	Zinc alloy die-casting	10	Rod	Stainless steel
4	Disk	Polyacetal resin	11	Top valve	Brass and special nitrile rubber
5	Diaphragm	Special nitrile rubber	12	E type snap ring	Steel
6	Valve base	Polyphenylen sulfite resin	13	Plate cover	ABS resin
7	Pressure sensor	(Diffusion semiconductor)			

Dimensions

• EV2500 CAD (File name: Page 556 or Ending 19)



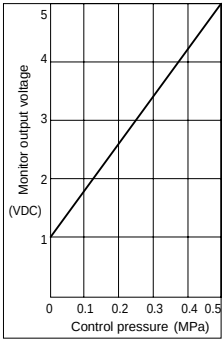
• EV2509 CAD (File name: Page 556 or Ending 19)



Refer to "cable option" on Page 523 for how to wire.
Refer to Page 523 for optional dimensions.

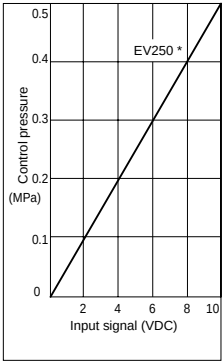
Monitor output

• EV2500 / 2509

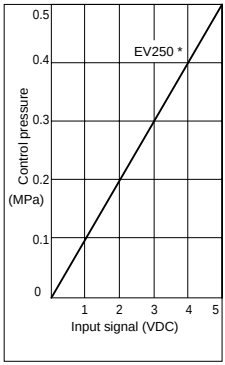


I/O characteristics

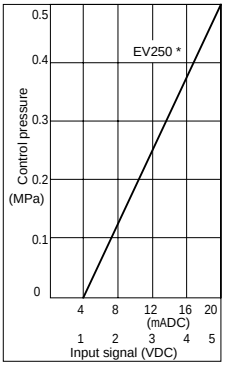
• Input signal 0-10V DC



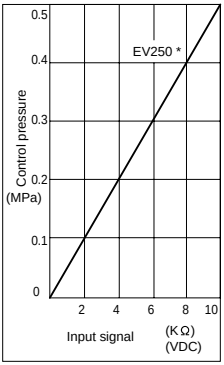
• Input signal 0-5V DC



• Input signal 4-20mA DC or 1-5V DC

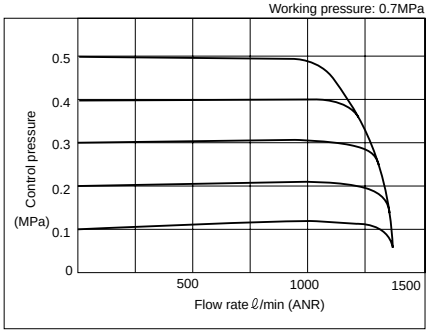


• Input signal 10k Ω variable resistance or 0-10V DC



Flow characteristics

• EV2500



• EV2509