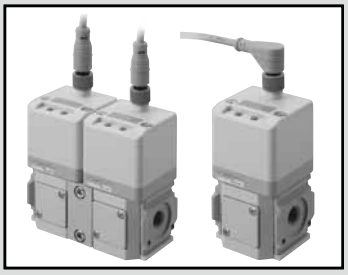
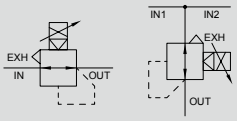


High precision electro pneumatic regulator

EVR Series

JIS symbol



Specifications

1 MPa = 10 bar

Model No. / Descriptions		EVR-2100 (2109)	EVR-2200 (2209)	EVR-2300 (2309)	EVR-2400 (2409)
Working fluid		Clean compressed air (JIS B8392-1:2012 (ISO 8573-1:2010) [1:3:2])			
Max. working pressure		200 kPa (≈29 psi, 2 bar)	400 kPa (≈58 psi, 4 bar)	450 kPa (≈65 psi, 4.5 bar)	600 kPa (≈87 psi, 6 bar)
Min. working pressure		Set pressure +50 kPa (≈7.3 psi, 0.5 bar)			
Proof pressure	Inlet	300 kPa (≈44 psi, 3 bar)	600 kPa (≈87 psi, 6 bar)	650 kPa (≈94 psi, 6.5 bar)	900 kPa (≈130 psi, 9 bar)
	Output side	150 kPa (≈22 psi, 1.5 bar)	300 kPa (≈44 psi, 3 bar)	450 kPa (≈65 psi, 4.5 bar)	600 kPa (≈87 psi, 6 bar)
Pressure control range *1		5 (≈0.8 psi) to 100 kPa (≈15 psi)	5 (≈0.8 psi) to 200 kPa (≈29 psi)	5 (≈0.8 psi) to 300 kPa (≈44 psi)	5 (≈0.8 psi) to 400 kPa (≈58 psi)
Power supply voltage		24 VDC ± 10% (stabilized power supply with ripple rate 1% or less)			
Current consumption		0.1A or less			
Input signal (input impedance)		0 to 10 V(6 kΩ) 0 to 5 V(10 kΩ) 4 to 20 mA or 1 to 5 V (250 Ω)			
Analog output (load impedance)		1 to 5 VDC (10 kΩ and over)			
Performance *2 (Setting 1)	Hysteresis	0.3 kPa (≈0.05 psi) or less	0.6 kPa (≈0.09 psi) or less	1.5 kPa (≈0.22 psi, 0.015 bar) or less	
	Linearity	Within ±0.5 kPa (≈0.07 psi)	Within ±1.0 kPa (≈0.14 psi)	Within ±2.5 kPa (≈0.36 psi, 0.025 bar)	
	Resolution	0.1 kPa (≈0.02 psi) or less	0.2 kPa (≈0.03 psi) or less	0.5 kPa (≈0.08 psi, 0.005 bar) or less	
	Repeatability	0.2 kPa (≈0.03 psi) or less	0.4 kPa (≈0.06 psi) or less	1.0 kPa (≈0.15 psi, 0.01 bar) or less	
Temperature characteristics (Setting 1) Reference temperature 25°C	Zero point fluctuation	±0.06kPa (≈0.009 psi)/°C	±0.12kPa (≈0.018 psi)/°C	±0.30 kPa (≈0.044 psi, 0.003 bar)/°C	
	Span fluctuation	±0.06kPa (≈0.009 psi)/°C	±0.12kPa (≈0.018 psi)/°C	±0.30 kPa (≈0.044 psi, 0.003 bar)/°C	
Max. flow rate (ℓ/min (ANR))		250	400	480	600
Step response (Setting 1)	No load *3	0.2 sec. or less			
Ambient temperature		5 (41°F) to 50 (122°F)°C			
Mounting orientation		Free			
Degree of protection		IP64 or equivalent (body), IP67 (cable connector) *4			
Weight		300 g(320 g)			

Model No. / Descriptions		EVR-2500 (2509)	EVR-2600 (2609)	EVR-2700 (2709)	EVR-2800 (2809)	EVR-2900 (2909)
Working fluid		Clean compressed air (JIS B8392-1:2012 (ISO 8573-1:2010) [1.3.2])				
Max. working pressure		700 kPa (≈100 psi)	750 kPa (≈110 psi)	850 kPa (≈120 psi)	950 kPa (≈140 psi)	1,000 kPa (≈150 psi)
Min. working pressure		Set pressure +50 kPa (≈7.3 psi, 0.5 bar)				
Proof pressure	Inlet	1,050 kPa (≈150 psi)	1,120 kPa (≈160 psi)	1,200 kPa (≈170 psi)	1,400 kPa (≈200 psi)	1,500 kPa (≈220 psi)
	Output side	750 kPa (≈110 psi)	900 kPa (≈130 psi)	1,050 kPa (≈150 psi)	1,200 kPa (≈170 psi)	1,350 kPa (≈200 psi)
Pressure control range *1		5 (≈0.8 psi) to 500 kPa (≈73 psi)	10 (≈1.5 psi) to 600 kPa (≈87 psi)	10 (≈1.5 psi) to 700 kPa (≈100 psi)	10 (≈1.5 psi) to 800 kPa (≈120 psi)	10 (≈1.5 psi) to 900 kPa (≈130 psi)
Power supply voltage		24 VDC ± 10% (stabilized power supply with ripple rate 1% or less)				
Current consumption		0.1A or less				
Input signal (input impedance)		0 to 10 V(6 kΩ) 0 to 5 V(10 kΩ) 4 to 20 mA or 1 to 5 V (250 Ω)				
Analog output (load impedance)		1 to 5 VDC (10 kΩ and over)				
Performance *2 (Setting 1)	Hysteresis	1.5 kPa (≈0.22 psi) or less	3.0 kPa (≈0.44 psi, 0.03 bar) or less			
	Linearity	Within ±2.5 kPa (≈0.36 psi)	Within ±5.0 kPa (≈0.72 psi, 0.05 bar)			
	Resolution	0.5 kPa (≈0.08 psi) or less	0.9 kPa (≈0.14 psi, 0.009 bar) or less			
	Repeatability	1.0 kPa (≈0.15 psi) or less	1.8 kPa (≈0.27 psi, 0.018 bar) or less			
Temperature characteristics (Setting 1) Reference temperature 25°C	Zero point fluctuation	±0.30 kPa (≈0.044 psi)/°C	±0.60 kPa (≈0.088 psi, 0.006 bar)/°C			
	Span fluctuation	±0.30 kPa (≈0.044 psi)/°C	±0.60 kPa (≈0.088 psi, 0.006 bar)/°C			
Max. flow rate (ℓ/min (ANR))		800	850	900	950	1,000
Step response (Setting 1)	No load *3	0.2 sec. or less				
Ambient temperature		5 (41°F) to 50 (122°F)°C				
Mounting orientation		Free				
Degree of protection		IP64 or equivalent (body), IP67 (cable connector) *4				
Weight		300 g(320 g)				

*1 : 1% F.S. or less input signal stops control.

*2 : The condition of the values above is: 24 ± 0.1 VDC power supply voltage, 25 ± 3°C ambient temperature, no load, working pressure from +0.05 MPa max. control pressure to the max. working pressure, and 10 to 100% control pressure.
In addition, when the secondary side is a closed circuit, pressure fluctuations will occur if the product is used for blowing or for similar applications.

*3 : Working pressure: Max. working pressure, step amount:
- 50% F.S. → 100% 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.

How to order

EVR-2 50 0 - 0 8 - E2 - S1 C

- **A** Pressure control range
- **B** Body
- **C** Input signal
- **D** Port size
- **E** Option

Code	Content	
A Pressure control range		
10	5 to 100 kPa	
20	5 to 200 kPa	
30	5 to 300 kPa	
40	5 to 400 kPa	
50	5 to 500 kPa	
60	10 to 600 kPa	
70	10 to 700 kPa	
80	10 to 800 kPa	
90	10 to 900 kPa	
B Body		
0	Single unit	
9	Manifold	
C Input signal		
0	0 to 10 VDC	
1	0 to 5 VDC	
2	4 to 20 mADC or 1 to 5 VDC	
D Port size		
8	Rc1/4	
8G	G1/4	(*1)
8N	NPT1/4	(*1)
E Option		
Exhaust option		
Blank	Rc1/4 port	
E2	With silencer	
Cable option		
Blank	None	
S1	Straight	1 m attached
S3		3 m attached
L1	L type	1 m attached
L3		3 m attached
Bracket option		
Blank	None	
C	C type bracket attached	
B	B type bracket attached	(*2)

⚠ Precautions for model No. selection

*1: Port size: Port size of IN port and OUT port. E2 exhaust option will be supplied with “8G” and “8N”.
*2: 9 (manifold) body and B (B type bracket) cannot be selected at the same time together.

● Discrete option (cable, exhaust, bracket) model No.

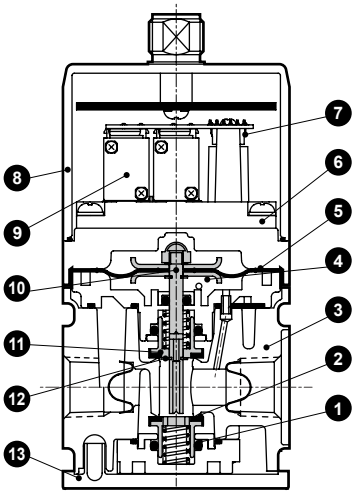
EVR- S1

- **E** Option

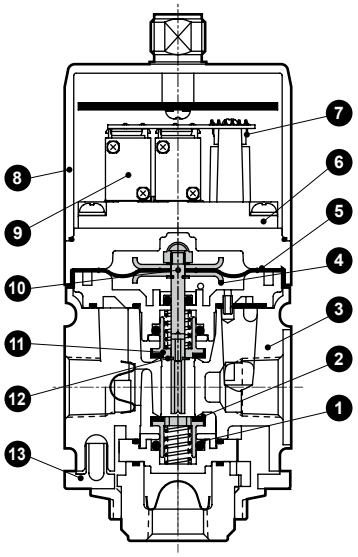
(Note) Discrete exhaust option model No. for Rc1/4 is EVR-E.

Internal structure and parts list

● EVR-2 □ 00



● EVR-2 □ 09

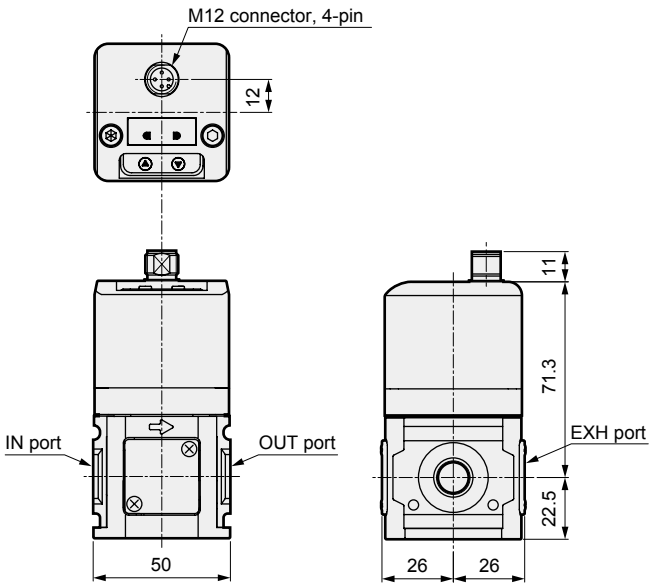


No.	Part name	Material
1	O-ring	Fluoro rubber
2	Bottom valve	Copper alloy, special nitrile rubber
3	Body	Aluminum alloy die-casting
4	Disc	Aluminum alloy
5	Diaphragm	Special nitrile rubber
6	Valve base	Polyphenylene sulfide resin
7	Pressure sensor	(Diffused semiconductor)
8	Housing	ABS resin
9	2-way valve	-
10	Rod	Stainless steel
11	Top valve	Copper alloy, special nitrile rubber
12	E-type snap ring	Steel
13	Plate cover	ABS resin

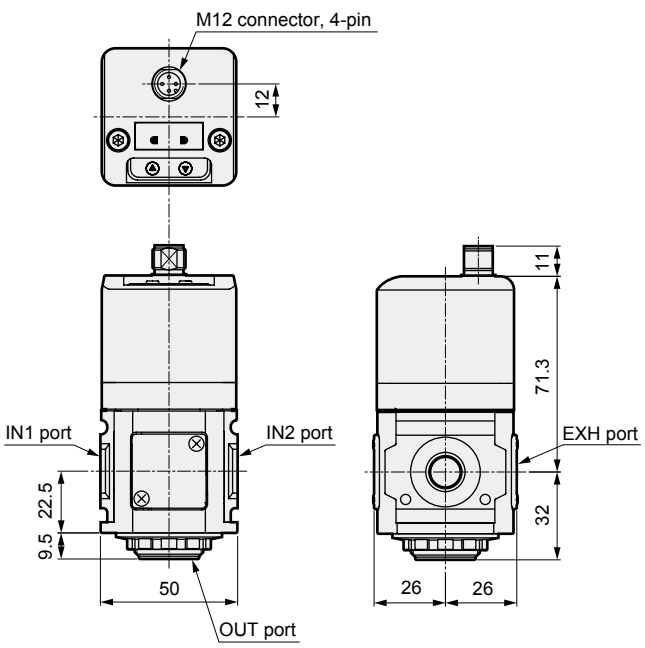
Cannot be disassembled

Dimensions

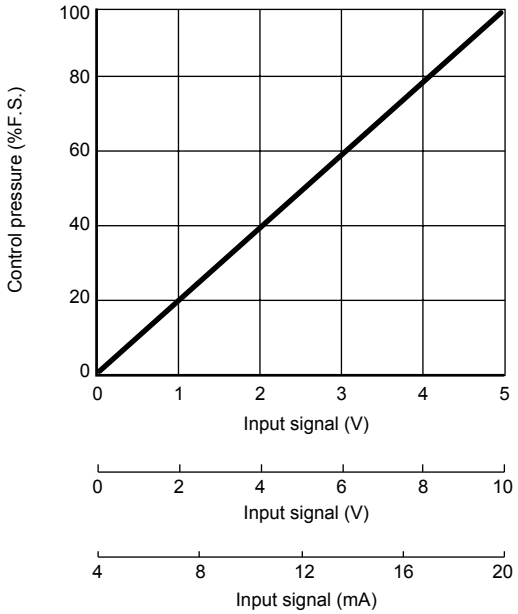
● EVR-2 □ 00



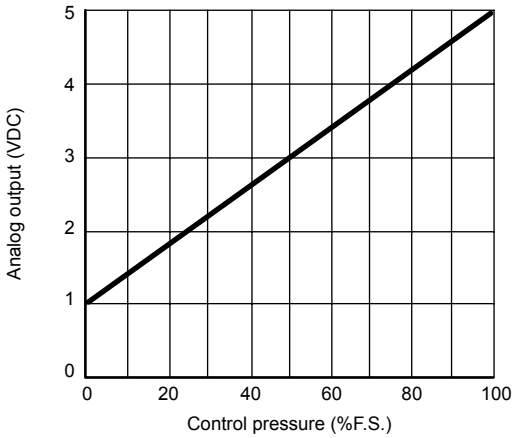
● EVR-2 □ 09



I/O characteristics

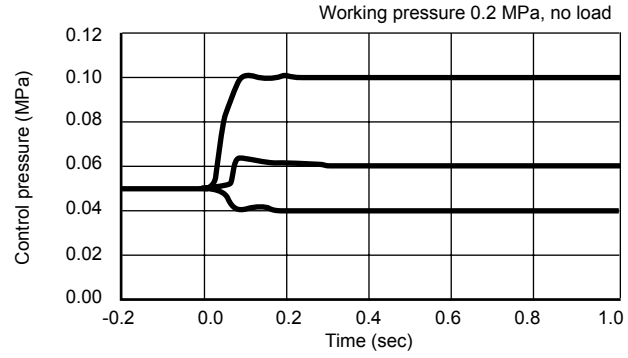


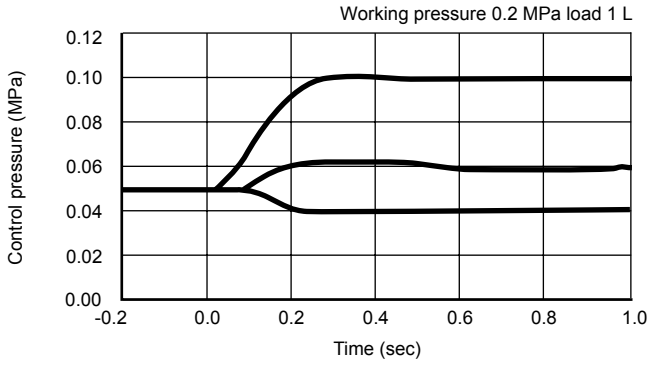
Analog output



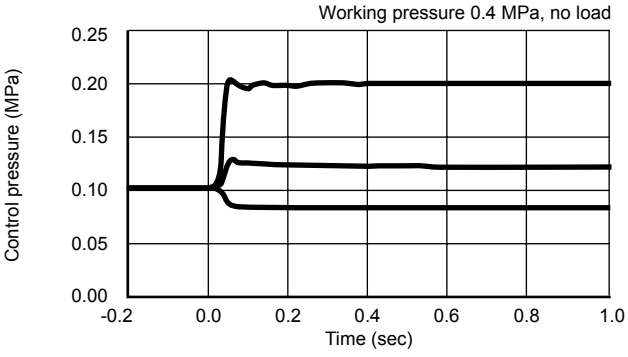
Step response characteristics (Setting 1)

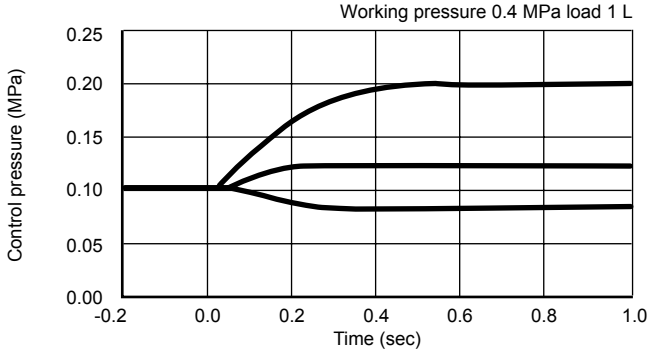
● EVR-2100





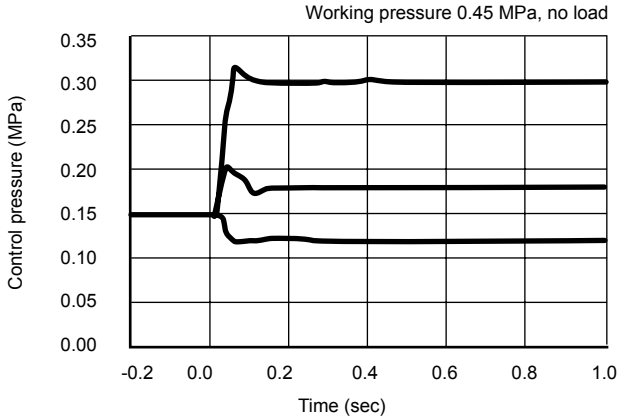
● EVR-2200

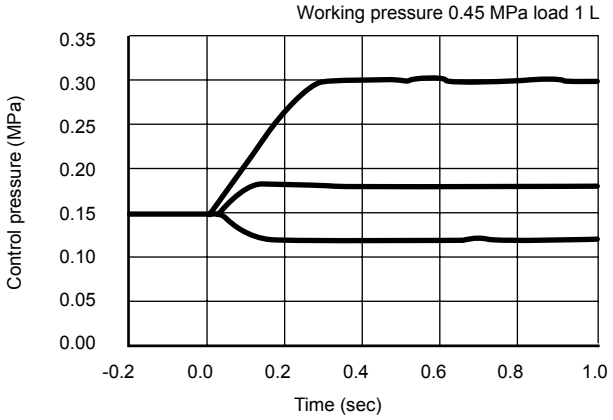




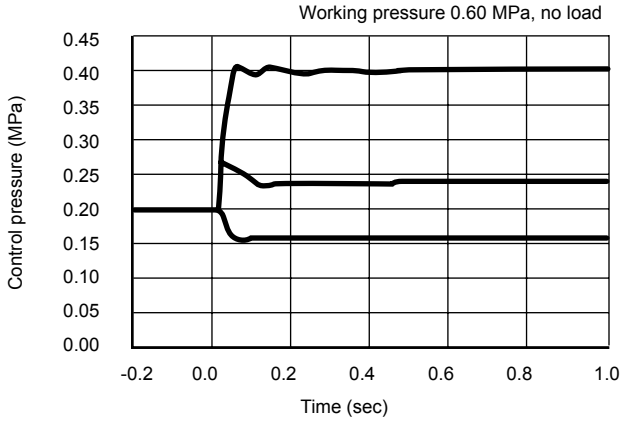
Step response characteristics (Setting 1)

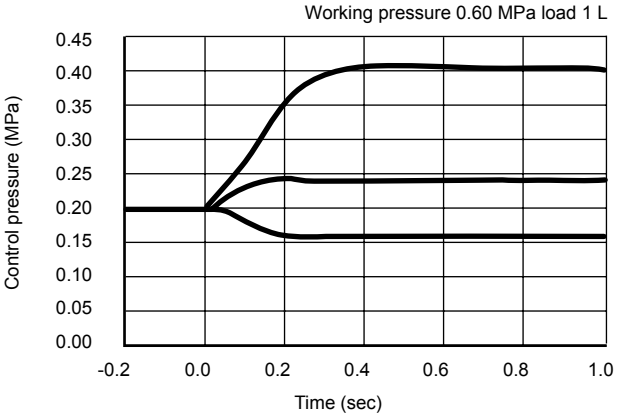
● EVR-2300



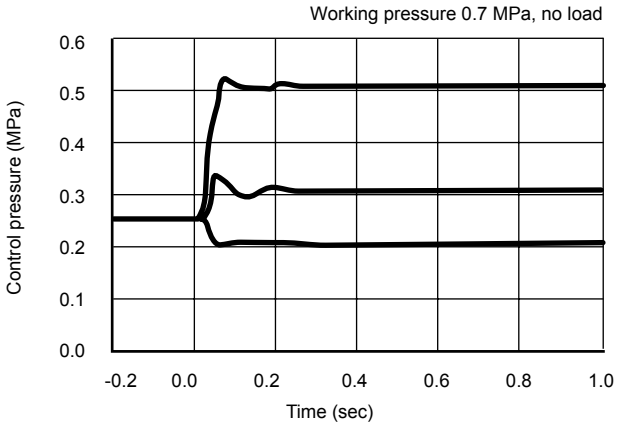


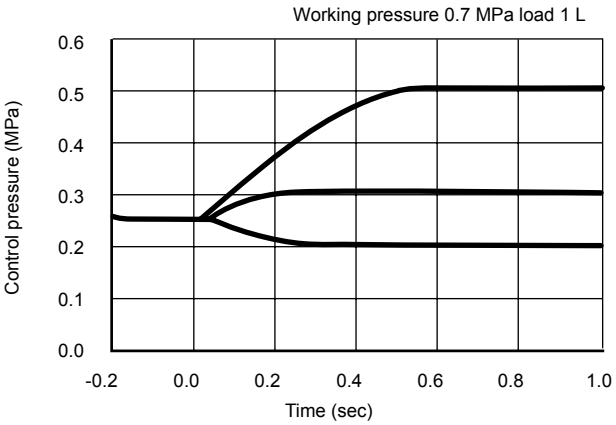
● EVR-2400



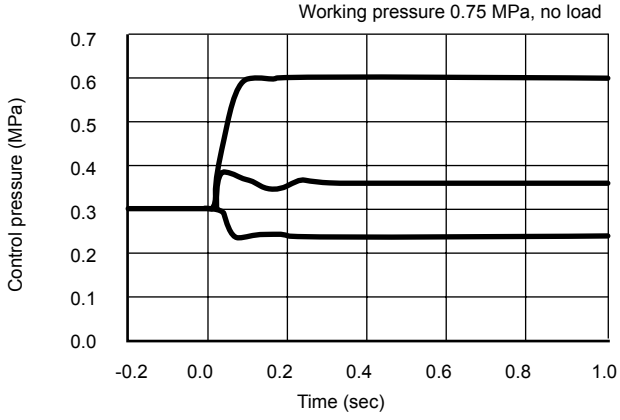


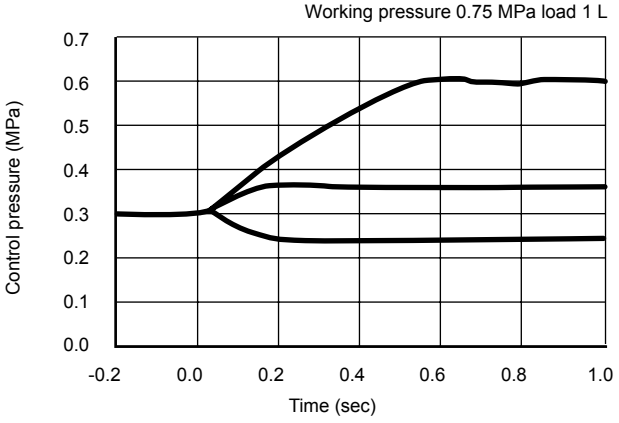
● EVR-2500





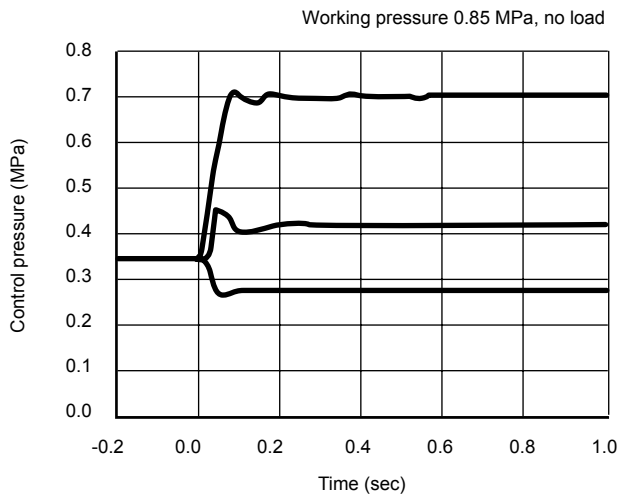
● EVR-2600

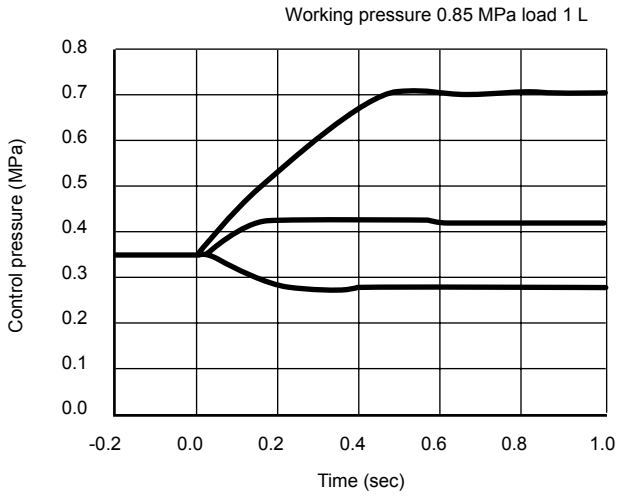




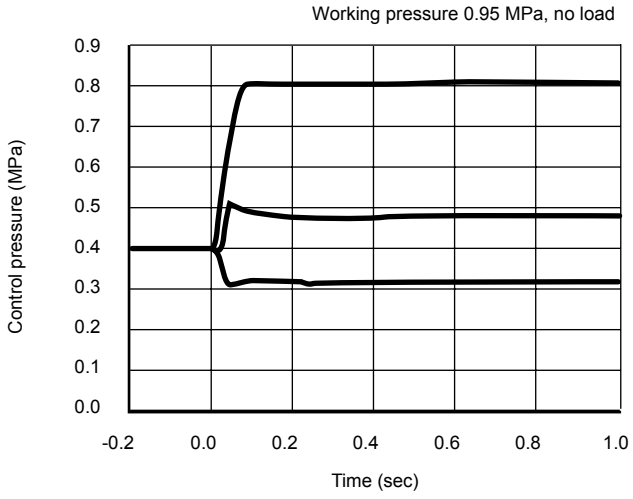
Step response characteristics (Setting 1)

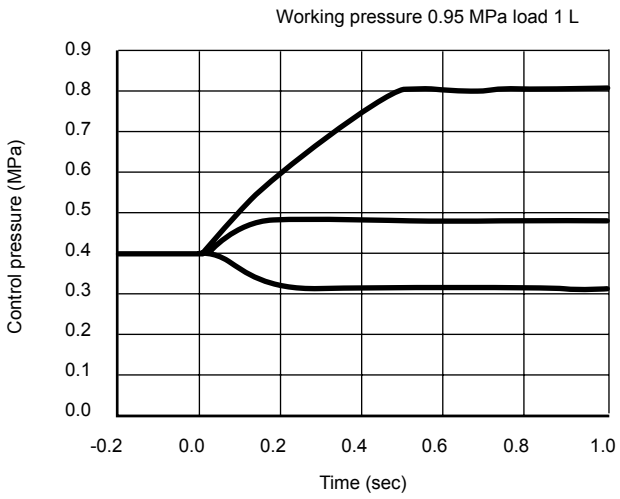
● EVR-2700



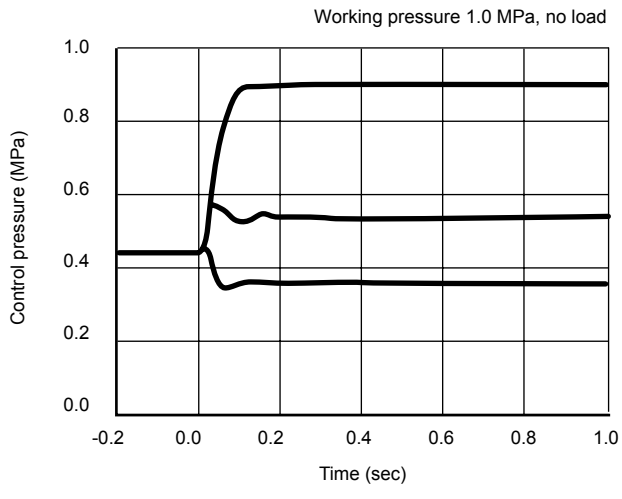


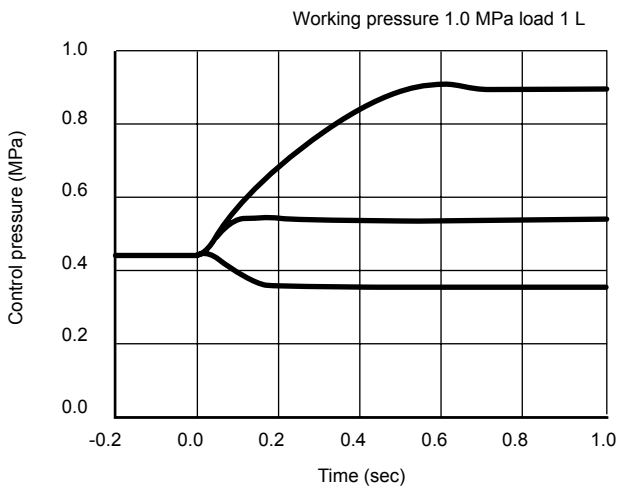
● EVR-2800





● EVR-2900

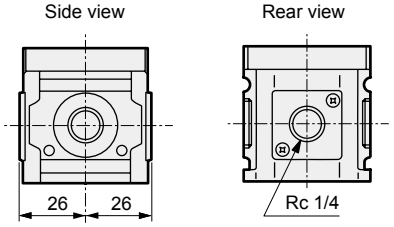




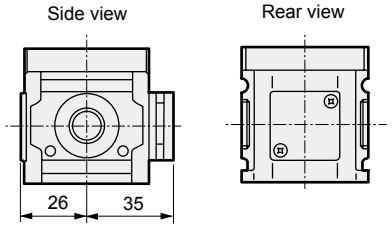
Optional dimensions

Embedded type option

● Standard: Blank (-E)



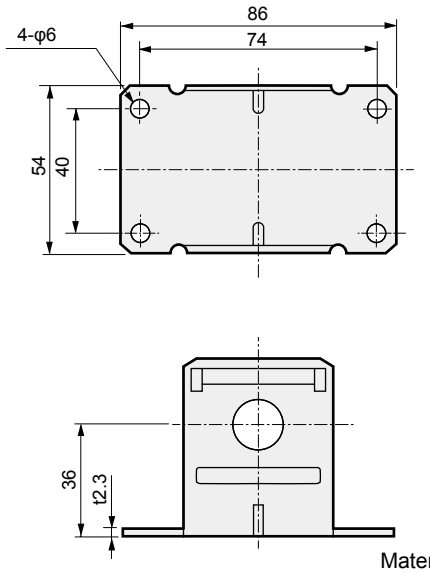
● Dedicated silencer: -E2



Weight: 10g

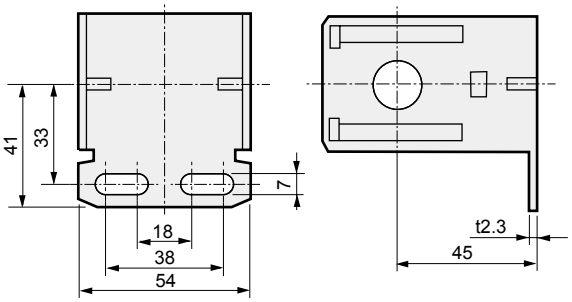
Bracket option

● B type bracket (Floor mounted): -B



Material : SPCC
Treatment: Zinc plated
Weight : 165g

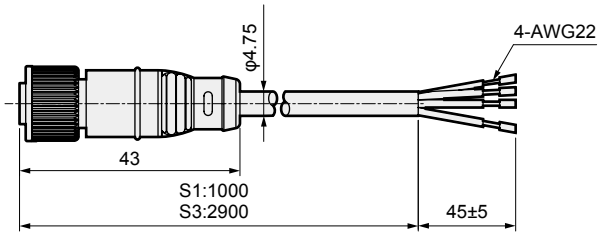
● C type bracket (Wall mounted): -C



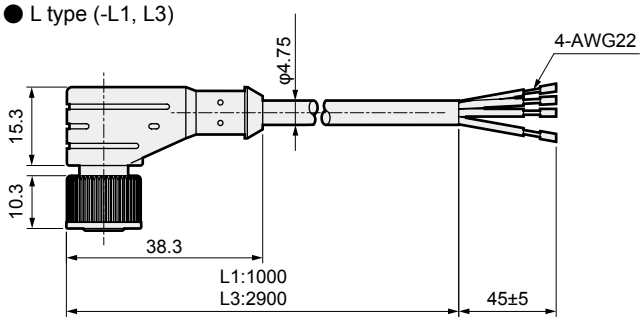
Material : SPCC
Treatment: Zinc plated
Weight : 148g

Cable option

● Straight (-S1, -S3)



● L type (-L1, L3)



* Cable/connector

* Pin No.	Insulator color	Applications	Type of input signal			Weight g
			0 to 10 V	0 to 5 V	4 to 20 mA 1 to 5 V	
1	Brown	Power supply ⊕	24 V			S1:50 S3:135 L1:55 L3:140
2	Black	——	Analog 1 to 5 V			
3	Blue	Common	0 V			
4	White	Input signal	0 to 10 V	0 to 5 V	4 to 20 mA 1 to 5 V	

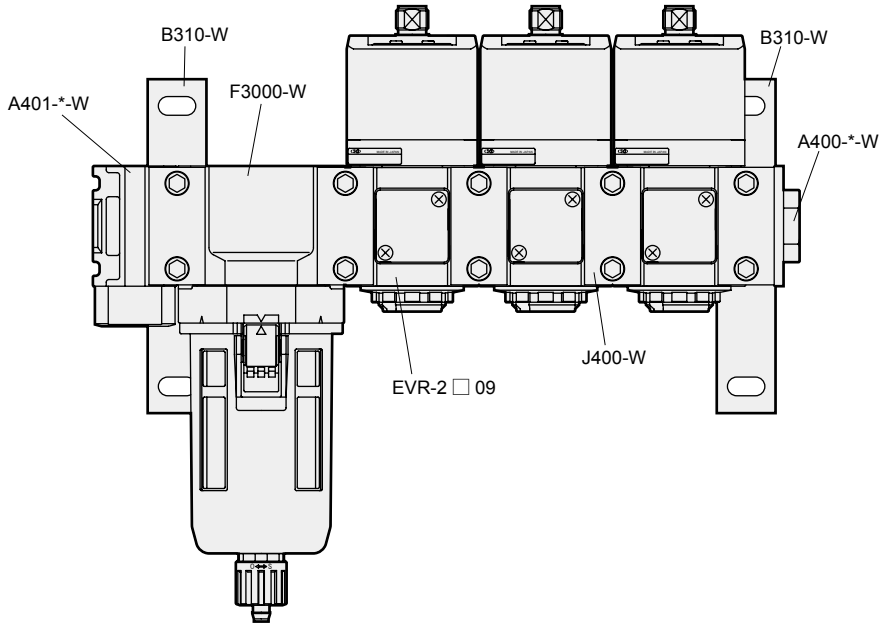
If a cable connector is not used, the following recommended cable sockets can be used.

Screw fixing type	ELW1KA4012 Correns (Hirschmann)
Straight (solder)	XS2C-D421 OMRON
L type (solder)	XS2C-D422 OMRON

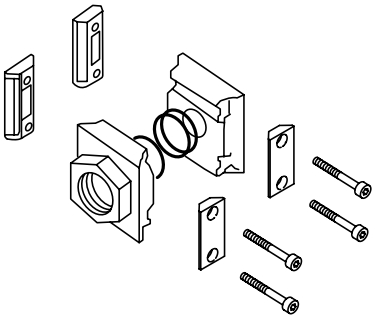
Optional dimensions

Other peripheral devices

● Example of system upgrading

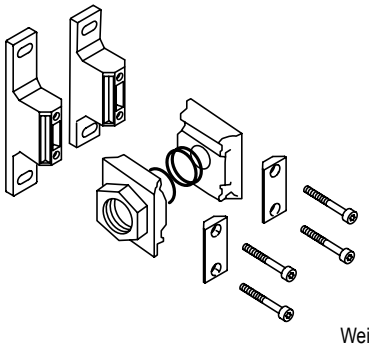


● A400-8/10/15-W
Pipe adaptor set



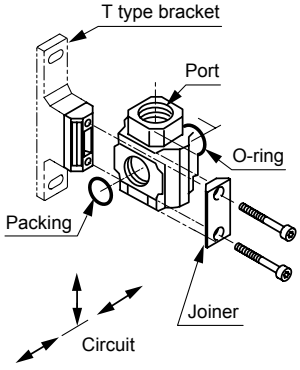
Weight: 160g
Material: Aluminum alloy die-casting
Painting

● A400-8-W/10-W/15-W-B31W
Pipe adaptor set



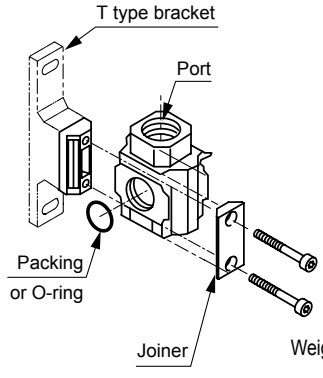
Weight: 270g
Material: Aluminum alloy die-casting
Painting

● D401-00-8/10/15-W-(B31W)
Distributor



Weight: 161g
216 g(B31W)
Material: Aluminum alloy die-casting
Painting

● A401-8/10/15-W-(B31W)
L type pipe adaptor



Weight: 161g
216 g(B31W)
Material: Aluminum alloy die-casting
Painting