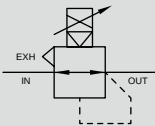




Low pressure electro pneumatic regulator

EVL Series

JIS symbol



Specifications

Overview

This low-pressure electro pneumatic regulator EVL Series is the first compact electro-pneumatic regulator for low pressure that enables flexible and highly precise proportional control from 0 kPa to 50 kPa.

Features

- Low pressure
Low pressure control from 0 to 50 kPa.
- High precision control
Hysteresis 0.5% F.S. or less
Resolution 0.2% F.S. or less
- Easy wiring
- Grease free flow path

Item		EVL-1050			
Working fluid		Clean compressed air (JIS B 8392-1: 2012 (ISO 8573-1: 2010) [1:3:2] or equivalent)			
Max. working pressure		160 kPa (≈23 psi, 1.6 bar)			
Min. working pressure		140 kPa (≈20 psi, 1.4 bar)			
Proof pressure	Inlet	240 kPa (≈35 psi, 2.4 bar)			
	Pressure side	100 kPa (≈15 psi, 1 bar)			
Pressure control range		0 (≈0 psi, 0 bar) to 50 kPa (≈7.2 psi, 0.5 bar)			
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 power is ON)			
Input signal (input impedance)		0 to 10 VDC (20 kΩ)	0 to 5 VDC (10 kΩ)	4 to 20 mA DC or 1 to 5 VDC (250 Ω)	10 kΩ variable resistance or 0 to 10 VDC (20 kΩ)
				*4	
Analog output		1±0.1 to 5±0.1 VDC (none for 10 kΩ variable resistance input)			
Accuracy *1	Hysteresis	0.5% F.S. or less			
	Linearity	±0.5% F.S. or less			
	Resolution	0.2% F.S. or less			
	Repeatability	0.5% F.S. or less			
Temperature characteristics	Zero point fluctuation	±0.15% F.S./°C or less			
	Span fluctuation	±0.07% F.S./°C or less			
Max. flow rate		100 l/min(ANR)			
Step response		0.6 s or less (no load)			
Vibration resistance		98 m/s ² or less (JIS C0040)			
Air consumption		4 l/min(ANR)			
Ambient temperature		5 (41°F) to 50 (122°F)°C			
Mounting orientation		Free			
Degree of protection		IP64 or equivalent (body), IP67 (cable connector) *5			
Port size	IN/OUT port	Rc1/4			
	EXH port	ø4.3			*6
	Pilot exhaust port (R)	M3			
	Bleed port				
Weight		315 g			

*1: The characteristics above are: 24.0 ±0.1 VDC power supply voltage, no load, 25 ±3°C ambient temperature, within the primary side 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.

*2: Values at 160 kPa working pressure and 50 kPa control pressure.

*3: Working pressure: 160kPa, step amount: 50% F.S. → 100% F.S.
50% F.S. → 60% F.S.
50% F.S. → 40% F.S.

*4: When used with a signal voltage of 1 to 5 VDC, 4 to 20 mA of current flows into the EV interior from the signal source. Check the specifications of the signal source before using it.

*5: The degree of protection of body IP64 is applied only when installed with facing connector upward.

*6: EXH port is open to the atmosphere. If piping is necessary, select “-E1” exhaust option.

How to order

EVL - **1050** - **0** **08** - **C11** **E1** **L11**

A Input signal

B Option

Code	Description
A Input signal	
0	0 to 10 V
1	0 to 5 V
2	4 to 20 mA or 1 to 5 VDC
3	10 kΩ variable resistance or 0 to 10 V
B Option	
Cable option	
Blank	None
C11	1 m attached
C13	3 m attached
Exhaust option	
Blank	None
E1 *1	ø8 push-in fitting
Bracket option included	
Blank	None
B1 *1	Floor mounted
B11	Floor mounted for exhaust fitting
L11	Wall mounted

⚠ Precautions for model No. selection

*1: "E1" exhaust option and "B1" floor mounted cannot be selected together.

● Discrete option model No.

(1) Cable/exhaust option

EV2000 - C11

Code	Description
C11	Cable 1 m
C13	Cable 3 m
E1	ø8 push-in fitting

(2) Bracket option

EVD - B1

Code	Description
B1	Floor mounted

EVL - B11

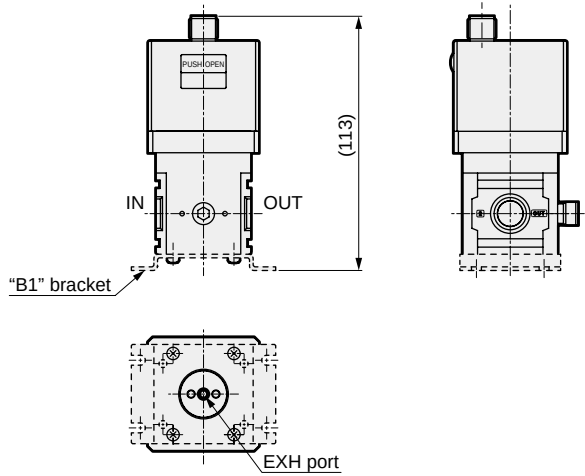
Code	Description
B11	Floor mounted for exhaust fitting
L11	Wall mounted

F.R.L.
F.R.
F (Filtr)
R (Reg)
L (Lub)
Drain
Separ
Mech
Press SW
Res press
exh valve
SlowStart
Anti-bac/Bac-
remove Filtr
Film
Resist FR
Oil-ProhR
Med
Press FR
No Cu/
PTFE FRL
Outdrs FRL
Adapter
Joiner
Press
Gauge
CompFRL
LgFRL
PrecsR
VacF/R
Clean FR
ElecPneuR
AirBoost
Speed Ctrl
Silncr
CheckV/
other
Fit/Tube
Nozzle
Air Unit
PrecsCompn
Electro
Press SW
ContactSW
AirSens
PresSW
Cool
Air Flo
Sens/Ctrl
WaterRISens
TotAirSys
(Total Air)
TotAirSys
(Gamma)
Gas
generator
RefrDry
DesicDry
HiPolymDry
MainFiltr
Dischrg
etc
Ending

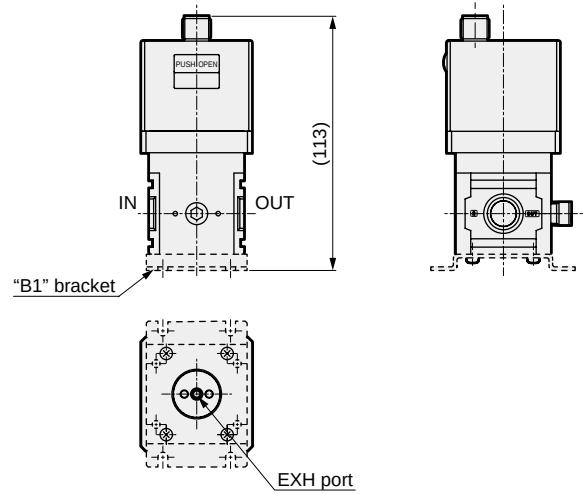
Dimensions with options

● Floor mounted bracket (-B1)

· Lateral mounting (in the piping direction)

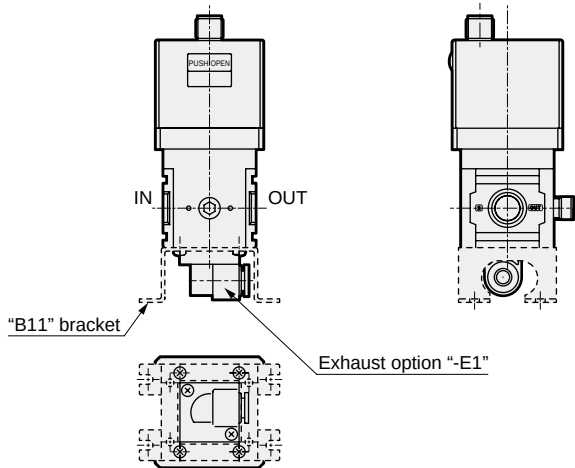


· Longitudinal mounting (in the depth direction)

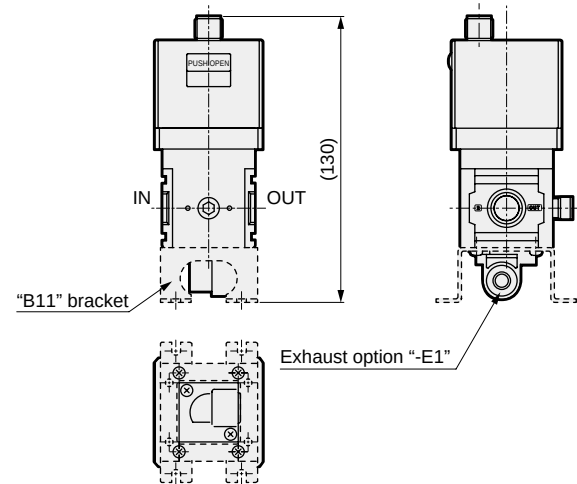


● Floor mounted bracket for exhaust fitting (-B11)

· Lateral mounting (in the piping direction)



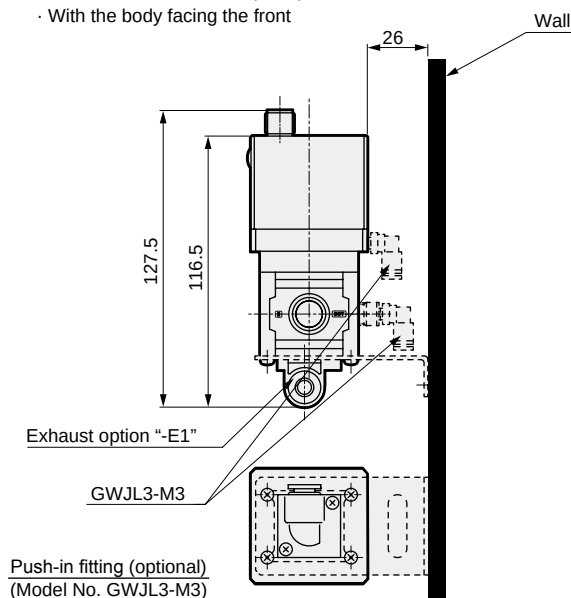
· Longitudinal mounting (in the depth direction)



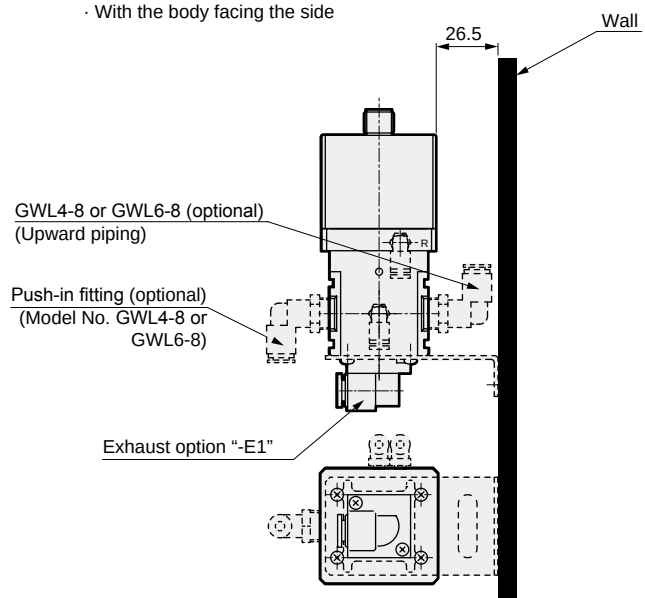
Note: Pull out the exhaust tube from the through hole when mounting the bracket laterally.

● Wall mounted bracket (-L11)

· With the body facing the front



· With the body facing the side



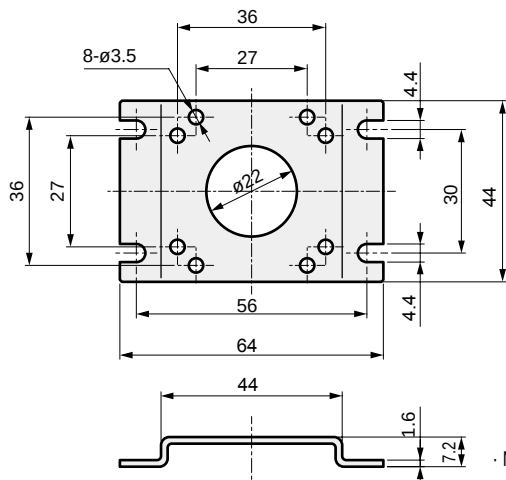
F.R.L.
F.R.
F (Filtr)
R (Reg)
L (Lub)
Drain Separ
Mech Press SW
Res press exh valve
SlowStart
Anti-bac/Bac-remove Filtr
Film Resist FR
Oil-ProhR
Med Press FR
No Cu/ PTFE FRL
Outdris FRL
Adapter Joiner Press Gauge
CompFRL
LgFRL
PrecsR
VacF/R
Clean FR
ElecPneuR
AirBoost
Speed Ctrl
Silncr
CheckV/ other
Fit/Tube
Nozzle
Air Unit
PrecsCompn
Electro Press SW
ContactSW
AirSens
PresSW Cool
Air Flo Sens/Ctrl
WaterRISens
TotAirSys (Total Air)
TotAirSys (Gamma)
Gas generator
RefrDry
DesicDry
HiPolymDry
MainFiltr Dischrg etc
Ending

F.R.L.
F.R.
F (Filtr)
R (Reg)
L (Lub)
Drain
Separ
Mech
Press SW
Res press
exh valve
SlowStart
Anti-bac/Bac-
remove Filt
Film
Resist FR
Oil-ProhrR
Med
Press FR
No Cu/
PTFE FRL
Outdrs FRL
Adapter
Joiner
Press
Gauge
CompFRL
LgFRL
PrecsR
VacF/R
Clean FR
ElecPneur
AirBoost
Speed Ctrl
Silncr
CheckV/
other
Fit/Tube
Nozzle
Air Unit
PrecsCompn
Electro
Press SW
ContactSW
AirSens
PresSW
Cool
Air Flo
Sens/Ctrl
WaterRtSens
TotAirSys
(Total Air)
TotAirSys
(Gamma)
Gas
generator
RefrDry
DesicDry
HiPolymDry
MainFiltr
Dischrg
etc
Ending

Optional dimensions

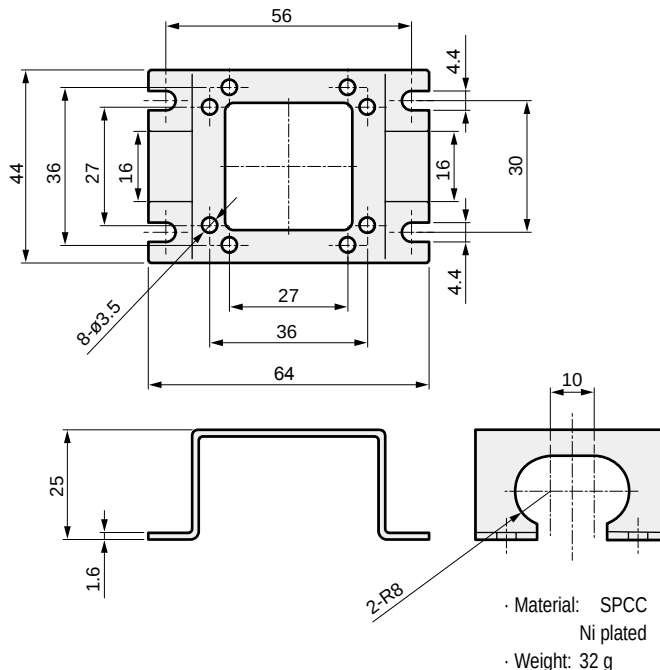
● Bracket option (-B1, -B11, -L11)

· Floor mounted bracket (-B1)



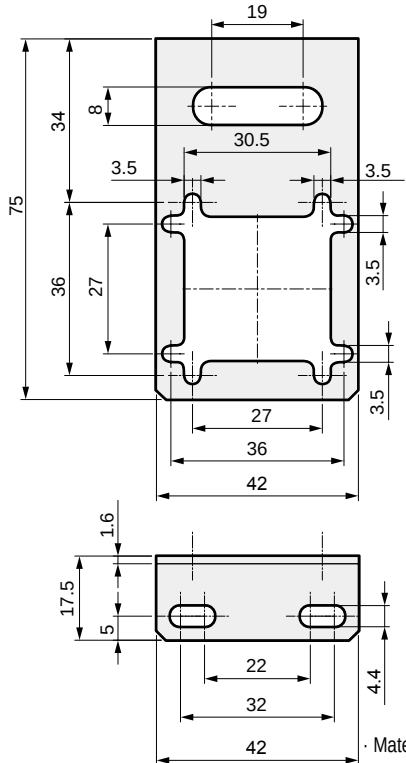
· Material: SPCC
Ni plated
· Weight: 32 g

· Floor mounted for exhaust fitting (-B11)



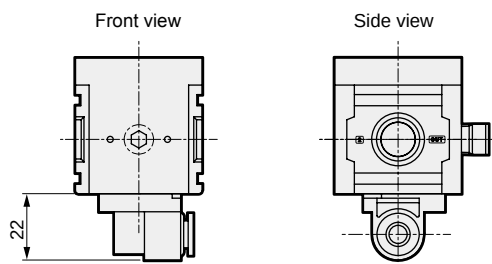
· Material: SPCC
Ni plated
· Weight: 32 g

· Wall mounted (-L11)



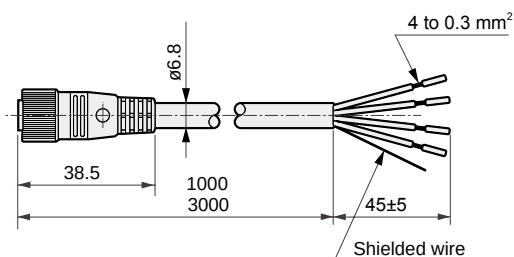
· Material: SPCC
· Treatment: Ni plating
· Weight: 31 g

● With ø8 push-in fitting (-E1)



· Weight: 13 g

● Cable option



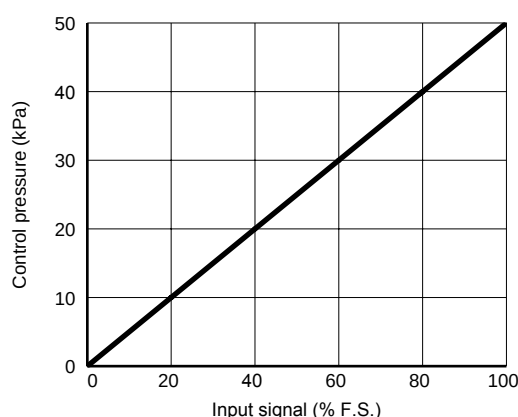
-C1* Shield/cable/connector

* 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	10 kΩVR (0 to 10 V)	
1	Red	Power supply ⊕	24 V				C11:79 C13:212
2	Green	—	Analog output 1 to 5 V				
3	Black	Common	0 V				
4	White	Input signal	0 to 10 V	0 to 5 V	4 to 20 mA 1 to 5 V	VR output terminal (0 to 10 V)	

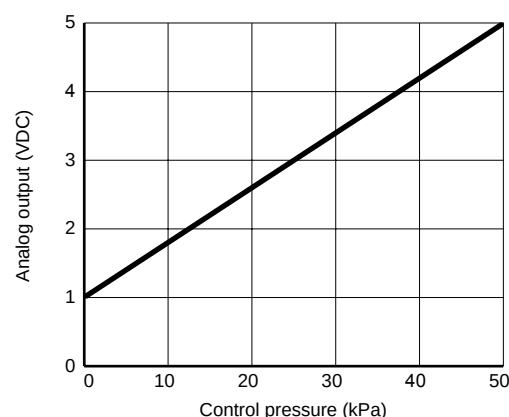
If a cable connector is not used, the following recommended cable sockets can be used. Use a shielded wire cable.

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

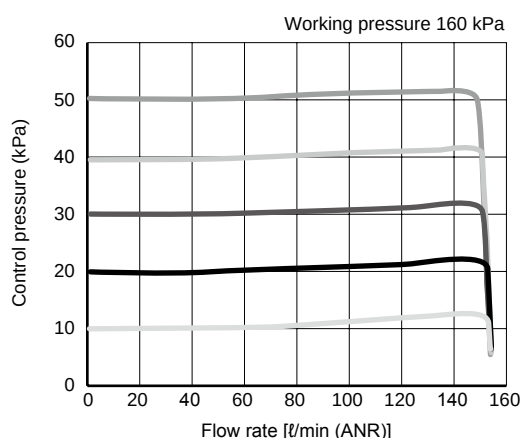
I/O characteristics



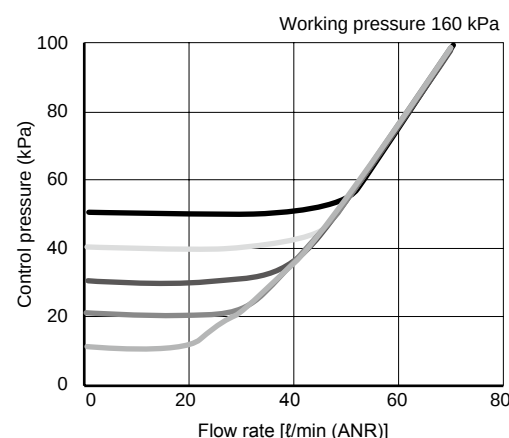
Analog output



Flow characteristics



Relief characteristics



Safety precautions

CAUTION

- This product uses the constant bleed method. Do not plug the bleed port during use.
 - If common exhaust is necessary, select “-E1” exhaust option. In addition to the EXH port, discharge from the bleed port and pilot exhaust port (R) together.
Note that “-B1” bracket cannot be selected in this case.
 - Keep the supply pressure between 140 kPa and 160 kPa to ensure high accuracy.
 - Applying an input signal outside the specifications shown in the table below will cause unnecessary operation of the solenoid valve, resulting in shorter service life and deteriorated performance. Keep the signal within the specifications.
- | 0 to 10V | 0 to 5 V | 4 to 20 mA |
|---------------------------------|--------------------------------|-----------------------------------|
| Less than 0 V
Exceeding 10 V | Less than 0 V
Exceeding 5 V | Less than 4 mA
Exceeding 20 mA |
- When mounting the unit on the wall (with the body facing the front) and attaching fittings to the bleed port and pilot exhaust port, use GWJL3-M3.
 - When mounting the unit on the wall (with the body facing the side), use GWL4-8 or GWL6-8 fitting on the wall side. Also, piping should be in an upward direction.
 - If particles must be eliminated, install a filter (e.g., FCS1000 Series) on the secondary side of EVL.

F.R.L.
F.R.
F (Filtr)
R (Reg)
L (Lub)
Drain
Separ
Mech
Press SW
Res press
exh valve
SlowStart
Anti-bac/Bac-
remove Filtr
Film
Resist FR
Oil-ProhR
Med
Press FR
No Cu/
PTFE FRL
Outdrs FRL
Adapter
Joiner
Press
Gauge
CompFRL
LgFRL
PrecsR
VacF/R
Clean FR
ElecPneuR
AirBoost
Speed Ctrl
Silncr
CheckV/
other
Fit/Tube
Nozzle
Air Unit
PrecsCompn
Electro
Press SW
ContactSW
AirSens
PresSW
Cool
Air Flo
Sens/Ctrl
WaterRISens
TotAirSys
(Total Air)
TotAirSys
(Gamma)
Gas
generator
RefrDry
DesicDry
HiPolymDry
MainFiltr
Dischrg
etc
Ending