



The slidegate valve EWS is a compact electro-pneumatic regulator of cartridge type, designed for fast control of air pressures and flows.

- 3/3 Way Turning Slidegate Valve
- Flow Regulation up to 1000 SI/min
- Pressure Control from -0,9 bar to +10 bar
- Valve Widths 4 and 6 mm
- Cartridge Construction with Optional Housing
- Valve Slide Position Control

Technical Description

The device handles as actuator flows up to 1000 SI/min and can be used together with an external analogue PID controller for pressure control between -0,9 and +10 bar. The 3-way principle allows it to mix inlet pressures according to the position of the control valve. The electronics situated in the external connector housing control the position of the air seated rotary slide valve. The valve needs a constant amount of bleed air for its bearings and slide, which do not close totally, and therefore shows a minimum relief capacity, even if the valve is closed.

Specifications

Pressure Regulation Ranges

Output or Set Point Pressure -0,9 bar low pressure to
Limits: 10 bar high pressure
Input or Supply Pressure: > 150 % v.E. (max. 10 bar)

Response Behaviour

Response Time 0 to +100 %: ≈ 5 ms
Response Time -100 % to +100 %: ≈ 7 ms
Critical Frequency ±50 % Activation: ≈ 110 Hz
Critical Frequency ±100 % Activation ≈ 70 Hz
Hysteresis: 1 % F.S.
Linearity Related to Position Control: 1 % F.S.

Operating Conditions

Input Pressure: -0,9 bar low pressure
10 bar high pressure
Temperature: 0 ... +50 °C
Humidity: 0 ... 90 % r.H.,
(not condensing)

Media Compatibility

Clean, dry, oil-free air; humidity non-condensing.

Passage Behaviour

Flow at	Nom. Width 4 mm	Nom. Width 6 mm
0,5 versus 0 bar:	110 SI/min	180 SI/min
6 versus 5 bar:	410 SI/min	630 SI/min
6 versus 0 bar:	640 SI/min	1000 SI/min
K_{vs} -Value:	approx. 0,43 m ³ /h	approx. 0,67 m ³ /h
Air Consumption:	< 6,5 SI/min	< 10 SI/min

Approximated flows with fully opened valve for standard conditions (1013 mbar abs., 0 °C, 0 % r.H.).

Enclosure

Dimens.	Valve Cartridge:	20 x 100 mm (ØxL)
	Valve Housing:	40 x 51 x 30 mm (HxWxD)
	Electronics Hous.:	15 x 53 x 75 mm (HxWxD)
Material	Valve Cartridge:	Stainless steel
	Valve Housing:	Aluminium, anodised
	Electronics Hous.:	Zinc die casting
Weight	Valve Cartridge:	≈ 130 g
	Valve Housing:	≈ 110 g
	Electronics & Hous.:	≈ 160 g
Ingress Protection:	IP 20	

Process Connections (Valve Housing)

G 1/4" f (3 x)

Electrical Connections (Inputs)

1 x	Voltage (-10/0 - +10 V, $R_{in} = 100$ k Ω)	SUB-D (m), 25-pole
or 1 x	Current (0 - 20 mA, $R_{in} = 500 \Omega$)	

Power Supply

24 VDC (22 to 26 VDC), supply via SUB-D-25-pole.

Special Features

Pressure Control with High Flow Capacity

In cooperation with any external proportional-, integral-, differential controller (PID).

Ordering Information

Part No. Structure: EWS-aaa-b-c-dd-e

aaa Valve Nominal Width

034 4 mm (K_{vs} -Value, approx. 0,43 m³/h)
036 6 mm (K_{vs} -Value, approx. 0,67 m³/h)

b Control Electronics*

6 Controller SVE1 in SUB-D connector, 25-pole

c Setpoint Input

1 bidirectional (-10 ... +10 V, $R_{in} = 100$ k Ω)
2 unidirectional (0 ... 10 V, $R_{in} = 100$ k Ω)
3 unidirectional (0 ... 20 mA, $R_{in} = 500 \Omega$)

dd Cable Length

05 0.5 m
10 1.0 m
15 1.5 m
20 2.0 m

e Housing Option

0 Valve cartridge without valve housing
1 Valve cartridge with valve housing

* The control electronics is also as 19-inch module or as mounting board available on request.

Part No.

ARM-1/24

Accessories

External, analogue PID controller as top hat rail module

The ARM-1/24 PID controller requires the control electronics SVE1 with bidirectional setpoint signal +/-10 V!