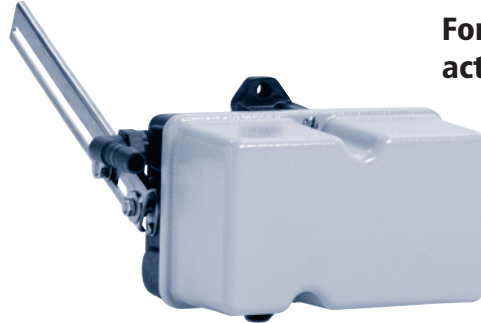


## Electro-pneumatic positioner

For linear and rotary actuators



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Features	Advantages
Compact design	■ Space saving mounting
Mounting position from horizontal to vertical	■ Flexible mounting possibilities
Input signal 4 – 20 mA or a sub-range	■ Enhanced operating safety
Input signal 0 – 10 V (using a resistor)	■ Application in building automation possible
Low air consumption	■ Less energy demand
NAMUR and direct mounting	■ Enhanced operating safety
For linear (10 – 120 mm stroke) and part turn actuators	■ Variable application possibilities
Low burden	■ Allows serial split range operation with several positioners
Easy setup without briefing	■ Allows operation by non qualified personnel

## Applications

### Electro-pneumatic positioners

Type SReP 810.6. ... are used for connecting pneumatic actuators with electric valves resp. control devices. The electric signal, a load-independent direct current of 4 – 20 mA or a sub range, will be carried as command variable «w» to the positioner and compared to the valve position, control variable «x». A set pressure of 6 bar max. is generated as initial variable «y» for the pneumatic actuator.

## Function

The positioner works according to the principle of comparison of two torques, consisting of the torque of the command variable «x» and the torque of the electro-magnetic magnet system of the command variable «w». The stroke compensation is basically done via tap lever. Adjusting the incline of the radial cam allows fine tuning. Adjustment of the stroke to sub-ranges of the command variable can also be done, if possible, via the outer tap lever. Additional adjustment can be done inclining the radial cam, however only with the linear curve 1.

The state of equilibrium is scanned by nozzle and baffle. In case of disparity of the torques, the amplifier will be controlled to the point, where torque equity is re-established via the valve shaft and the mechanic feedback.

Each simple acting positioner is basically equipped with 2 opposedly controllable nozzles, which may be alternatively switched to direct or reverse operation onto the amplifier (figure 1).

## Technical data

Input signal range	■ 4–20 mA (0–20 mA) or a sub range
Max. current in case of saturation	■ ≤ 150 mA
Internal resistance	■ 250 Ohm ± 5% at 20°C
Angle range mounting valve	■ 30° angle of rotation (10–120 mm stroke on actuators with appropriate mounting parts)
Angle range mounting shaft via transmission part	■ 70° resp. 90° angle of rotation
Linearity deviation	■ < 2% of control range
Hysteresis	■ < 0.5% of control range
Proportional band	■ 0.7–3.5% of control range
Response sensitivity	■ < 0.1% of control range
Tolerated ambient temperature	■ –20 to +100°C
Dependence on temperature	■ < 0.3%
Protection class according to DIN 40050	■ IP 65
Stuffing box fitting	■ M 20 x 1
Weight approx. – SReP 810.6.1	■ 1.3 kg
– SReP 810.6.2	■ 1.7 kg

**Electric data**

Signal current circuit in type of protection intrinsic safety Eex ib IIC / IIB only for connecting to certified intrinsic safe electric circuits with the following maximum values: **Ui = 28 V, Ii** see Table below.

Ii	Class of temperature	Maximal allowed ambient temperature
55 mA	T4	80°C
	T5	80°C
	T6	60°C
100 mA	T3	80°C
	T4	75°C
	T5	40°C

**Test port (connecting socket)**

Only for connecting certified passive floating intrinsic safe test devices. Standards about interconnecting intrinsic safe electric circuits are to be respected.

**Specifications**

- Type SReP 810.6.1. ... simple acting
- Type SReP 810.6.2. ... double acting
- Type SReP 810. .../1 intrinsic safe II 2 G Eex ib IIC T6

**Materials**

Body and cover of Al-diecast, amplifier of anodized Al, inner parts predominantly of stainless steel and nickel-plated Cu-alloy.

**Parts and accessories**

Accessories like manometer, NAMUR mounting parts etc, are featured in the technical documentation.

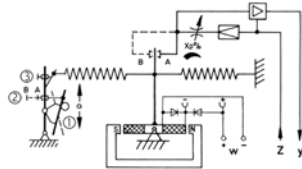
**Verification certificate**



Drawings and principle

Figure 1 (simple acting)

Symbol(s)



Principle

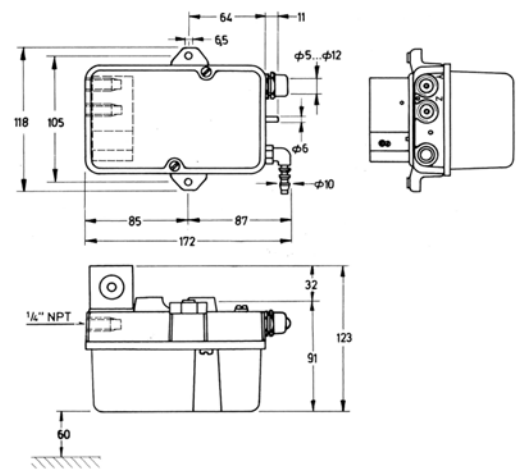
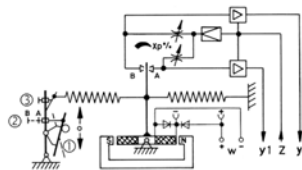
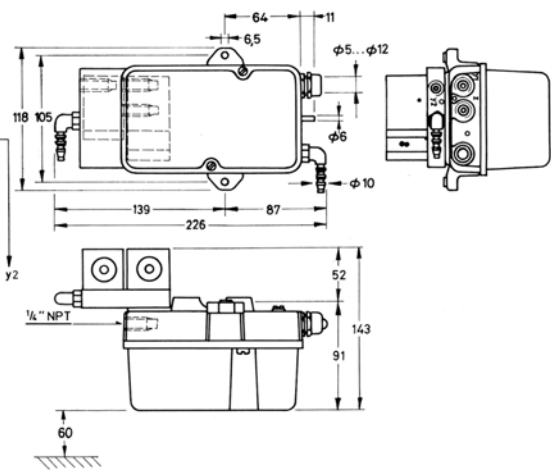


Figure 2 (double acting)

Symbol(s)



Principle



- |                           |                      |   |
|---------------------------|----------------------|---|
| ① Feed back from actuator | Z Supply air         | 1,4... max. 6 bar                       |
| ② Stroke                  | y1, y2 Output signal | 0... 1,4 bar resp. 0... supply pressure |
| ③ Zero                    | w Command variable   | 4... 20 mA (0... 20 mA)                 |

Detailed documentation is available on request – please phone us: +41 (0)61 467 91 20 or visit our webpage: [www.von-rohr.ch](http://www.von-rohr.ch)