



## EP500 Advanced Electropneumatic Positioner



### ATEX rating

II2G Ex d mb IIC T6 Gb  
II2D Ex tb mb IIIC T76°C Db  
II2G Ex ia IIC T6 Gb  
II2D Ex ia IIIC T76°C Db

### Ex ia circuit parameters

U<sub>i</sub> = 30 V, i = 110 mA,  
P<sub>i</sub> = 0.82 W, L<sub>i</sub> = 0, C<sub>i</sub> = 0

### Description

With the highest precision the EP500 electropneumatic positioner can control any valve that is actuated by a linear pneumatic actuator that conforms with NAMUR. It guarantees an exact proportionality between the stroke of the valve and the value of the electrical input signal (mA) into the positioner.

Simple construction and high operational reliability make-up this high precision unit which further offers simplicity of maintenance and calibration.

The EP500 has a cast aluminum housing that is also treated for outdoor installation. The unit can be mounted onto pneumatic actuators that have a stroke limit of between 10 and 70 mm. (100mm PN9400 actuator only)

As standard the unit is supplied with a mounting kit for actuators that have a stroke limit of between 10 to 70 mm.

As standard the EP500 is equipped with two gauges to indicate the supply air pressure and the air pressure command sent to the pneumatic actuator.

The flow of the output signal is adjustable by means of a valve damping adjustment screw.

The positioner is supplied for a control signal in mA and for an air supply pressure up to 90 psi.

With simple calibration the positioners can be arranged for sequential operation of two or more pneumatic valves in such a way that the stroke of each valve is obtained by a split-range control signal. For example: 4 to 12 and 12 to 20 mA in the case of two valves; and 4 to 9, 9 to 14 and 14 to 20 mA with three valves, etc..

The EP500 electropneumatic positioner can also be used to reverse the action of the control signal.

### Air supply

The EP500 positioner must be provided with a high quality air supply. A Spirax Sarco MPC2 filter regulator with coalescing filter or equivalent must be used. A fixing kit is available to mount the MPC2 filter regulator onto the actuator.

For further product data regarding the MPC2 see Technical Information sheet TI-P054-04.

### Applications

The EP500 can be used with any actuator that conforms to NAMUR, this includes all of the following Spirax Sarco pneumatic actuators:

**PN9000 series**

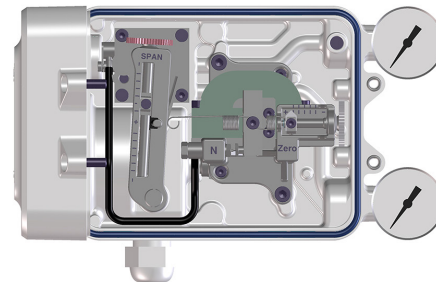
**TN2000 series**

### Materials

Part	Material	Finish
Case and cover	Die cast aluminum	Anti-corrosive paint to RAL9016



EP500 with front cover closed

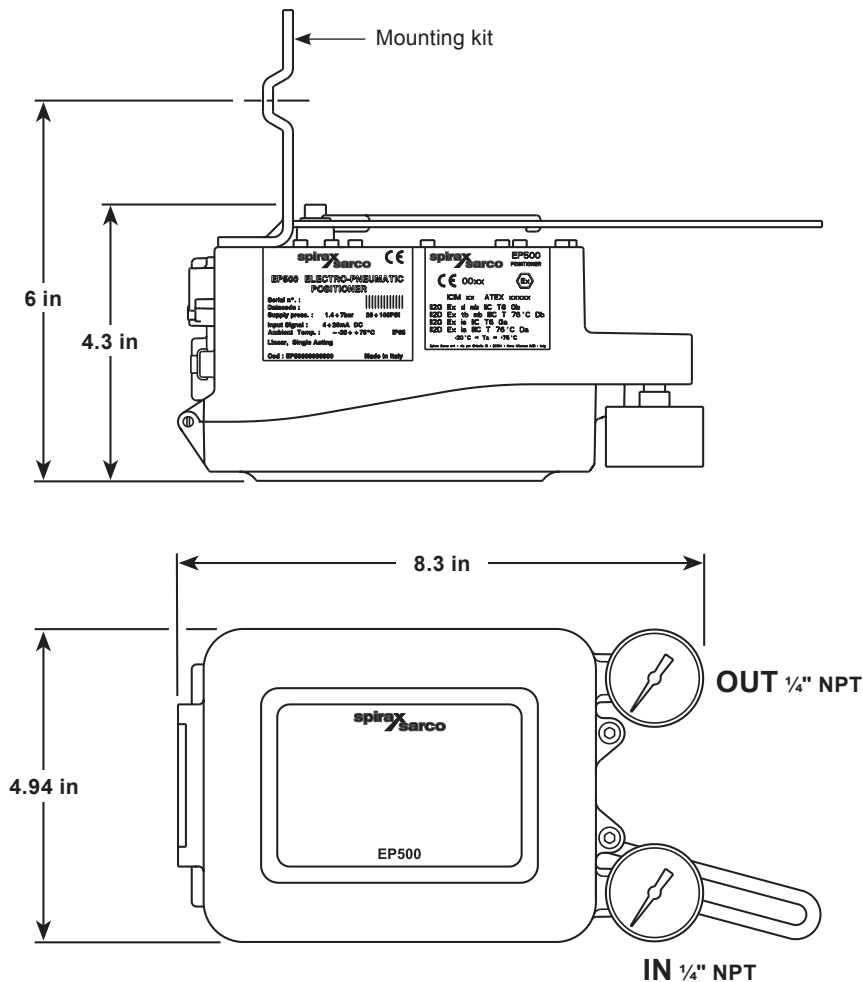


EP500 with front cover opened to display the inside

### Technical data

Input signal range	4-20 mA (split range minimum amplitude 4 mA)
Input resistance	292 Ω
Air supply	20 to 90 psi (regulate 5 to 10 psi above actuator spring range)
Air quality	Air must be free of water, oil and dust
Output pressure	0 to 100% supply pressure
Actuator stroke	10 mm to 70 mm (100mm PN9400 actuator only)
Action	Single acting / fail vent
Operating temperature	-20°C to +75°C (-4°F to 167°F)
Air flow	3.20 Nm <sup>3</sup> /h @ 1.4 bar (2.0 scfm @ 20 psi)
Steady state air consumption	0.17 Nm <sup>3</sup> /h @ 1.4 bar (0.44scfm @ 20 psi)
Air connections	¼" NPT female
Sensitivity	≤0.2% F.S. (Full Scale)
Histerisis	≤0.4% F.S.
Linearity	≤1.0% F.S.
Repeatability	≤0.5% F.S.
Electrical connections	Cable gland M20 internal terminals for conductors from 0.5 to 2.5 mm <sup>2</sup> wire
Degree of protection	IP65
Characteristic	Linear
Shipping weight	2.35 kg (5.1 lbs)

**Dimensions**  
(approximate) in mm



**Safety information, installation and maintenance**

Full details are contained in the EP500 electropneumatic positioner Installation and Maintenance Instructions (IM-P343-46) supplied with the product.

**Available spares**

- Gauges** Full-scale 0 to 2 bar / 0 to 30 psi
- Full-scale 0 to 4 bar / 0 to 60 psi
- Full-scale 0 to 7 bar / 0 to 100 psi
- Back plate, gasket and screw**
- Amplifying relay set**
- Gasket set**
- Mounting kit**

**How to order spares**

Always order spares by using the adjacent description and state which unit it is intended for.

**For example:** 1 off Amplifying relay set for an EP500 standard electropneumatic positioner.

**Positioner nomenclature guide**

Positioner series	EP500A = Advanced ATEX electropneumatic positioner	EP500A
<b>Movement/action</b>	1 = Linear, single action for a maximum stroke limit of 70 mm	1
	3 = Linear, single action for a maximum stroke limit of 100 mm (PN9400 actuator only)	
<b>Enclosure</b>	0 = Standard	0
<b>Approvals</b>	3 = Explosion proof + intrinsic safety	3
<b>Gauges</b>	G2 = Full-scale 2 bar / 30 psi	G4
	G4 = Full-scale 4 bar / 60 psi	
	G7 = Full-scale 7 bar / 100 psi	

**Selection example:**

EP500A	1	0	3	G4
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**How to order**

**Example:** 1 off Spirax Sarco EP500A103G4 advanced ATEX electropneumatic linear positioner having a stroke limit of 70 mm supplied equipped with gauges for a full-scale pressure reading of 4 bar / 60 psi.

**Caution:** The EP500 positioner must have a high quality air supply. A Spirax Sarco MPC2 filter regulator with coalescing filter or equivalent must be used inclusive of fixing kit - See Technical Information sheet TI-P054-04 for further data and How to order.