

ARCACONTROL

POSITIONERS

SERIES 826/ 827A/ 824:

ARCAPRO®
The intelligent one



ARCASmart
The allrounder



ARCATROL
The classic



YOUR SOLUTION: OUR POSITIONERS

A linear function between input signal and positioning stroke is ideal for maximum control accuracy. However, control valves with a pneumatic actuator are subject to friction, media pressure and flow forces, so that this linearity is not inherent to the system. Only the positioner eliminates any positioning errors. For this purpose, the input signal is compared to the actual stroke in the positioner. Depending on the control deviation, it supplies the actuation pressure for the actuator from the supply air. Input signals can either be 0.2 to 1 bar or 4 to 20 mA or digital signals.



Positioner mounting

1 Positioner mounting according to IEC 534 (NAMUR)

The classic mounting according to IEC 534 is based on manufacturer-independent mechanical interfaces on the actuator yoke and actuator stem. In general, a bracket is used for fastening and the feedback lever is a lever with a spring element. The supply air is connected to the positioner and the pneumatic connection to the actuator is implemented with a pipe or hose.



Direct, integrated mounting

2 Direct, integrated mounting

The positioner can be easily mounted on the actuator yoke by means of two screws to ensure that it is robust and protected against vibrations. The feedback lever is located within the yoke and is therefore better protected than with the NAMUR mounting method. The actuation pressure from the positioner is passed through the actuator yoke into the actuator without additional piping. This avoids leaks. The supply air is connected directly to the positioner.



**Integrated mounting
according to VDI/VDE 3847**

3 Integrated mounting according to VDI/VDE 3847

Here, as with the NAMUR mounting method, standardized mechanical interfaces are provided on the actuator yoke and actuator stem. At the same time, however, the actuator interface is a pneumatic interface, so that the actuation pressure is guided into the actuator through the actuator yoke as in the case of direct mounting. In addition, there is an interface on the back of the yoke for a solenoid valve, which is pneumatically connected between the positioner and the actuator and thus enables a safe shutdown of the valve. The supply air is connected directly to the yoke, therefore no work on the piping is necessary when replacing the positioner.



ARCAPLUG® feedback lever

4 ARCAPLUG®-feedback lever

The patented ARCAPLUG® feedback lever connects the valve stem with the feedback lever of the positioner. The tapered roller made of non-wearing plastic engages between two pins on the stem. The spring of the tapered roller is self-adjusting, so that the stroke is always detected without any zero backlash and without hysteresis. Not even strong vibrations or shocks can cause wear and the distance tolerances of the pins are optimally compensated.

All positioners represent holistically conceived control technology with smart analog or digital technology, a wide diagnostic spectrum and the possibility of integrated attachment without pipes. Precise flow is thus guaranteed.

ARCASMART



The allrounder – the compact solution in the digital world of positioners

With the ARCASMART positioner type 826, ARCA has the compact solution in the world of positioners. During development, particular importance was attached on the one hand to the design meeting the digital demands of the time and on the other to realization of the simplest possible handling.

Thanks to the use of proven pneumatics and the latest NCS technology, the ARCASMART is used wherever simple, fast and reliable control is required for standard applications.

The digital positioner can optionally be retrofitted with our patented ARCAPLUG® feedback lever. This is self-adjusting and guarantees minimal wear and no hysteresis.

ARCAPRO®



The intelligent one – digital positioner with large diagnostic ranges

The ARCAPRO® positioner has an enlarged range of functions, an extended online diagnostic system, and an optional service display.

Commissioning and operation are simplified by automatic adaptation to the respective control valve and simple parameterization, e.g., the addition direction of action, split range or stroke limitation. In a large number of customizable diagnostic parameters ensure that preventive maintenance can be optimally planned, and unnecessary plant downtimes are avoided.

Modern communication options such as HART, PROFIBUS® PA or Foundation Fieldbus make it possible for all functional and diagnostic parameters to be transmitted to process control systems and evaluated there. The positioner can be operated locally or from the control room.

ARCATROL



The classic – analog positioner following the principle of force comparison

The ARCATROL positioner type 824 works according to the classic principle of force comparison. It has a modular design and can be extended by various additional modules.

This makes it easy to adapt precisely to special tasks. With the I/P converter module, electrical 0/4 to 20 mA input signals are converted into pneumatic unit signals with 0.2 to 1 bar for controlling the positioner.

Two adjustable inductive switches enable feedback from end positions to the control system, for example as a NAMUR signal. The feedback potentiometer generates a message containing the actual position for evaluation in the control system.

This is what distinguishes the ARCSMART:

- Simple to handle thanks to one-button initialization
- Resistant to vibrations thanks to the latest NCS technology
- Top reaction times for small and large actuators
- Constant actual value due to leakage compensation
- Flexibly usable for linear and rotary actuators
- Integrated mounting
- Plain text display

This is what distinguishes the ARCAPRO®:

- Modular construction
- Additional modules such as an analog, binary, slot-type initiator and contact modules extend the options
- Minimal air consumption and thus low operating costs
- Universal communication easily adaptable to existing plant communication
- Integrated mounting
- Extended online diagnostics according to NE 91

This is what distinguishes the ARCATROL:

- Sturdy design
- Modular construction
- Pneumatic or electrical function
- Proven technology
- Insensitive to dirt
- Integrated mounting



ARCA is a specialist in sophisticated industrial process control. Our story began in 1917 with a groundbreaking innovation. Since then, outstanding engineering skills and pioneering spirit have been key strengths of our family-run company. Today our control technology provides reliable interfaces for your process.

Our comprehensive services guarantee the secure and efficient control of your production, from early project consulting to maintenance all the way to process optimization.

CONTROL THE FLOW

ANALOG AND DIGITAL – HIGH-PRECISION CONTROL

ARCA offers uncompromising smart technology not only with control valves, but also with positioners. Commissioning and operation are simplified by automatic adaptation to the respective control valve and simple parameterization, e.g. the direction of action, split range or stroke limitation. In addition, a large number of customizable diagnostic parameters ensure that preventive maintenance can be optimally planned and plant downtimes are avoided.

Modern communication options such as HART, PROFIBUS® or Foundation Fieldbus make it possible for all functional and diagnostic parameters to be transmitted to process control systems and evaluated there.



ARCAonsite allows you with a QR code nameplate on the control valve worldwide direct access to our digital platform. There you will find all the necessary information and the latest documentation for your valves.

OUR INNOVATION

YOUR ADVANTAGE

- | | |
|---|--|
| 1 Proven classic and intelligent digital positioners | <ul style="list-style-type: none">→ Long service life→ Low life cycle costs→ Low operating costs |
| 2 Integrated pipeless mounting | <ul style="list-style-type: none">→ Compact design→ High mechanical strength→ No sensitive piping |
| 3 Universal communication | <ul style="list-style-type: none">→ Easy adaptation to existing plant communication |
| 4 Leakage compensation | <ul style="list-style-type: none">→ No valve oscillations→ Protects the actuator |
| 5 Fast Open / Fast Close
End position behavior | <ul style="list-style-type: none">→ Leak-proof valve→ Short opening times→ Reduced compressed air consumption→ Protects the actuator |
| 6 Non-contact position detection (NCS)
with one-button initialization | <ul style="list-style-type: none">→ Fast start-up→ Resistant to vibrations→ Resistant to steam hammering→ Non-wearing |
| 7 Extended diagnosis and Bluetooth adapter | <ul style="list-style-type: none">→ All diagnostic data is readable on the device, in the control room or in the app→ Self-monitoring of the complete valve→ Pinpoint maintenance planning |
| 8 Patented ARCAPLUG® feedback lever | <ul style="list-style-type: none">→ Self-adjusting→ No hysteresis→ Minimal wear |



ARCA-Stellungsregler allgemeine Daten

Technical Data		ARCATROL 824	ARCASMART 826	ARCAPRO 827A
General data	Body material	Anodized aluminum / GRP	Anodized aluminum Anodized aluminum / plastic	Anodized aluminum Stainless steel
	Temperature range	-40 to +80 °C	-20 to +80 °C	-40 to +80 °C
	Input signal	0,2 to 1 bar 4 to 20 mA	4 to 20 mA	4 to 20 mA
Ignition protection classes		None	Intrinsically safe, increased safety, protected by housing	Intrinsically safe
Communication	HART	-	Yes	Yes
	Profibus PA	-	-	Yes
	Foundation Fieldbus	-	-	Yes
Option modules	Retrofittable	Yes	-	Yes
	Options	Positioner	Digital Input/Output; Analog Modul	Digital Input/Output; Analog Modul
	Limit values	Wegschalter	-	Schlitzinitiatoren Modul Kontakt Modul
Pneumatic data	Supply air pressure	1,4 to 6 bar	1,4 to 7 bar	1,4 to 7 bar
	Continuous air consumption	< 500 Ndm ³ /h	< 36 Ndm ³ /h	< 36 Ndm ³ /h
Mounting	Linear actuators	ARCA integrated, IEC 60534-6	ARCA integrated, integrated VDI/VDE 3847 IEC 60534-6	ARCA integrated, integrated VDI/VDE 3847 IEC 60534-6
	Stroke range	10-120 mm	3-200 mm	3-200 mm
	Rotary actuator	VDI/VDE 3845	integrated VDI/VDE 3847 VDI/VDE 3845	integrated VDI/VDE 3847 VDI/VDE 3845
	Rotary angle	90°	30-100°	30-100°



ARE YOU FAMILIAR WITH OUR ARCA SERVICE PACKAGES?

On the basis of our comprehensive application knowledge about the entire process or control loop ARCA Services underscore our promise to you:
CONTROL THE FLOW

ARCA launch

With ARCAlaunch we assist you with the commissioning of your control valves. That applies to support during construction and also during the cold and hot commissioning.

ARCA care

With ARCAcare, we offer maintenance contracts that are precisely tailored to your plant. This way, planned prophylactic service dates aren't hampered by everyday operation. The failure of important valves is prevented.