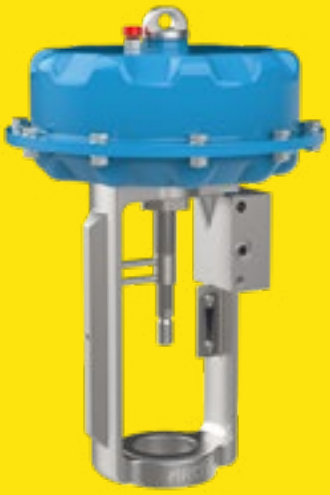
ARCADRIVE

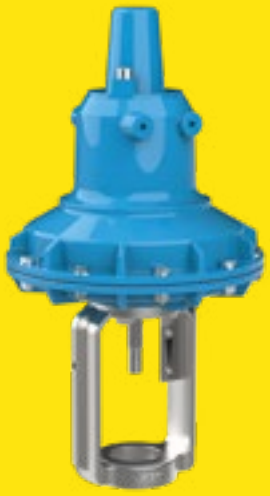
PNEUMATIC CONTROL VALVE ACTUATORS

SERIES 811/ 812/ 814/ MA:

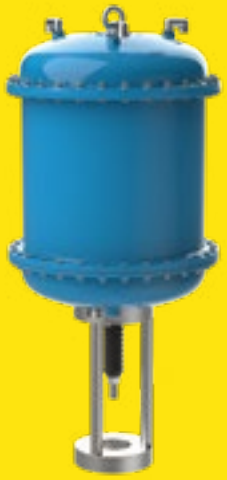
ARCADRIVE
812/ The compact one



ARCADRIVE
811/ The classic one

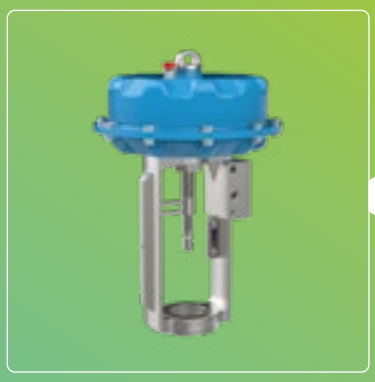


ARCADRIVE
MA/ The robust one



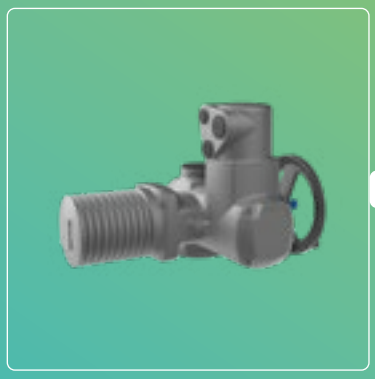
ARCA-VALVE.COM

ARCA VALVES



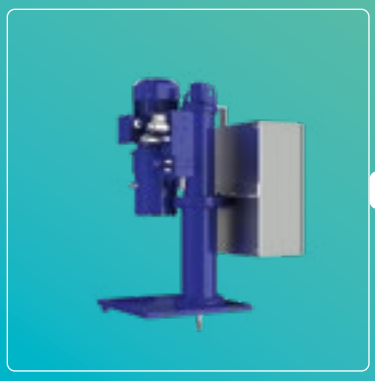
1

Pneumatic diaphragm actuators



2

Electric actuators



3

Hydraulic actuators

YOUR SOLUTION: OUR ACTUATORS

Advantageous diversity

The product range is as diverse as the requirements in the plant. Our wide product range offers pneumatic, electric and hydraulic valve actuators with low to very high actuating forces at linear movements. What all actuators have in common is low lifecycle costs. Of course, ARCA Regler GmbH also develops and manufactures individual actuators with extremely short actuating times or for safety-oriented tasks. With ARCADRIVE you always have the appropriate solution.

1. Pneumatic diaphragm actuators

The modular structure of the pneumatic diaphragm actuators with a sturdy rolling diaphragm enables universal usage and also ensures hysteresis-free control over the entire travel range. These pneumatic valve actuators offer both directions of action, i.e. opening or closing by spring force or control air. Since the direction of action is field-reversible at any time, these actuators ensure high flexibility and investment security. Due to the integrated actuating spring, the pneumatic control actuator always adopts a defined fail position. This takes place with very short actuating times, which means that the ARCA diaphragm actuators play a key role in plant safety in addition to performing their control task. Explosion protection is of course taken into account in the design of the pneumatic diaphragm actuators. Our pneumatic diaphragm actuators can optionally be equipped with emergency manual override.

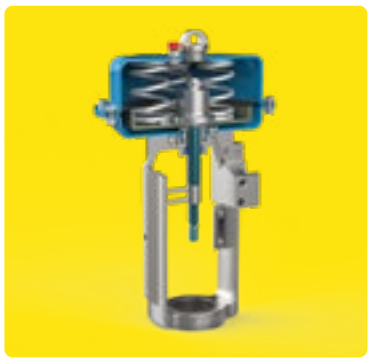
2. Electric actuators

The actuating and control forces are transferred to the valve using geared motors and a linear push unit, so that they are permanently available without delay. Suitable transmission ratios guarantee that even extremely high actuating forces are transferred reproducibly and in a stable manner. The electric actuators are designed with emergency handwheel as standard. The intermittent motor cutoff is implemented by adjustable torque or travel limit switches. Explosion protection and an emergency actuation function can be integrated as an option. A standardised connection interface allows use in all common applications.

3. Hydraulic actuators

These are characterised by high actuating forces and actuating speeds. Due to the double high pressure piping for supply and back-flow, hydraulic actuators are only specified if there are corresponding technical necessities. If needed, we can offer you the respective specified make via the standardised interface in cooperation with leading manufacturers.

The actuators engineered by ARCA represent comprehensively conceived actuation technology in a modular design and with individual configuration if necessary. Precise control is thus guaranteed.

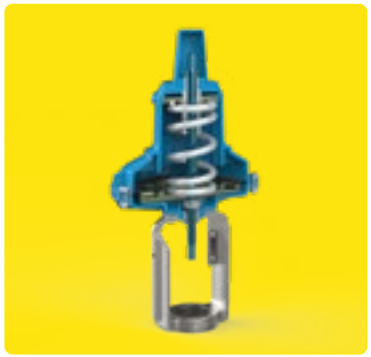


812 The compact one

This pneumatic actuator is designed identically for the functions „Air to open" and „Air to close". This means that you can reverse this valve actuator with little effort and without the need to open the actuator housing. Thanks to this design principle, no internal parts can be lost and the powder-coated actuator shells are not damaged at the bolted connection.

The extensively proven rolling diaphragm construction is also protected against damage and contamination. Special plugs for the aeration and exhaust protect against splash water and other environmental influences. The pneumatic multi-spring execution allows for a very compact design. As an option, Series 812 actuators are also available in stainless steel for demanding process environments, for example offshore.

ARCADRIVE/ PNEUMATIC ACTUATORS



811 The classic one

The UMA 811 diaphragm actuator is a series covering four actuator sizes. The stem is double-guided and the two valve interfaces are identical, so that both directions of action can be implemented very easily. Accessories can be mounted via a NAMUR rib. Using a tightening screw, the spring preload can be adjusted individually to the required actuating force for your process.

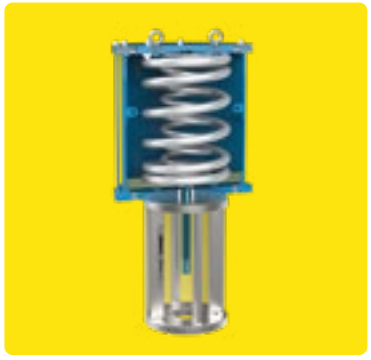
Various spring variants are available as well as optional handwheel and/or stroke limitation.

ARCADRIVE/ PNEUMATIC ACTUATORS

MA The robust one

In addition to the single-acting version, in which the air either opens or closes, this series also includes the double-acting version. Here, when opening and closing, the air acts on the same diaphragm, in which the fabric is coated on both sides. This diaphragm actuator is thus usable both for control applications and for open/close applications and is regarded as extremely robust.

ARCADRIVE/ PNEUMATIC ACTUATORS



814 The powerful one

The pneumatic piston actuator from the 814 series has been specially designed for large valve sizes with large strokes. The pneumatic actuator can be designed as single-acting, with the function air to open/spring to close or air to close/spring to open. The actuator is also optionally available in a double-acting version with or without springs.

What characterises the 812 series:

- 4 sizes
- Extensive choice of materials
- Optionally also usable in explosion zones 1, 2, 21 and 22
- Integrated air ducting
- Integrated mounting interface for positioners
- Integrated mounting according to VDI/VDE 3847 is possible
- A wide range of additional equipment is available

What characterises the 811 series:

- 4 sizes
- Optionally also usable in explosion zones 1, 2, 21 and 22
- Integrated adjustable spring preload
- Mounting interface according to IEC 60534 (NAMUR)
- A wide range of additional equipment is available

What characterises the MA series:

- 5 different sizes
- Optionally also usable in explosion zones 1, 2, 21 and 22
- Mounting interface according to IEC 60534 (NAMUR)
- A wide range of additional equipment is available

What characterises the 814 series:

- For large stroke ranges 180 to 250 mm
- Optional hydraulic manual override
- ATO, ATC or double-acting function

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

THE RIGHT ACTUATOR FOR EVERY APPLICATION

With the pneumatic actuators, ARCA always offers the right solution for your special application. We cover a very wide range of actuating forces and strokes.

The rolling diaphragms make hysteresis-free control possible over the entire stroke range. All actuators can be supplied in the direction of action air to open/spring to close (ATO) or air to close/spring to open (ATC).

If electric and hydraulic actuators are also desired, you will of course also be optimally served by ARCA in these cases.

ARCAonsite ON EVERY VALVE

With the help of a QR-code nameplate on the control valve, ARCAonsite allows you to access our digital platform directly from anywhere in the world, where you can find all necessary information and the current documentation for your control valve.

OUR INNOVATIONS	YOUR ADVANTAGES
1 Protected actuator stem	→ Maintenance-free plain bearing and sealing element → Integrated wiper ring
2 Integrated mounting interface	→ Plug and Play mounting for solenoid valves and positioners → Compact design → High mechanical strength
3 Air ducting	→ Internal channels in the yoke allow piping of the positioner to be dispensed with
4 Instrument air purge of the spring chamber	→ Protection against aggressive and corrosive environmental influences → Long lifecycle with low costs
5 Diaphragm	→ Long service life thanks to fabric reinforcement → Diaphragm clamping in force bypass → Rolling diaphragm, constant effective area over the entire stroke range
6 Optional additional equipment	→ Explosion protection → Emergency manual adjustment → See data sheet for further additional equipment

ARCA actuators general data

Air supply	6 bar				
Temperature	-20°C to +80°C (optional -40°C to +90°C)				
Actuator Series 811					
Size	UMA 0	UMA I	UMA III	UMA V	
Stroke, max.	20 mm	30 mm	60 mm	120 mm	
Diaphragm effective area	210 cm^2	320 cm^2	720 cm^2	1440 cm^2	
No. of springs	1	1	1	1–2	
Actuating force, spring, max.	4,5 kN	7,7 kN	17,3 kN	33,1 kN	
Actuating force, air, max.	11,6 kN	17,8 kN	39,5 kN	81,2 kN	
Actuator Series 812					
Size	MF 0	MF I-20	MF I-30	MF III-30	MF III-60
Stroke, max.	20 mm	20 mm	30 mm	30 mm	60 mm
Diaphragm effective area	140 cm^2	320 cm^2	320 cm^2	720 cm^2	720 cm^2
No. of springs	3–6	3–7	3–7	3–12	3–12
Actuating force, spring, max.	2,9 kN	7,4 kN	7,4 kN	16 kN	14 kN
Actuating force, air, max.	5,5 kN	14,4 kN	14,4 kN	32,4 kN	32,4 kN
Actuator Series MA					
Size	16	21	31	41	60
Stroke, max.	20 mm	35 mm	59 mm	118 mm	136 mm
Diaphragm effective area	85–110 cm^2	150–240 cm^2	355–550 mm^2	600–1135 cm^2	1500–2185 cm^2
No. of springs	1–7	1–7	1–7	2–14	2–16
Actuating force, spring, max.	2,6 kN	4,3 kN	8,4 kN	25,2 kN	45 kN
Actuating force, air, max.	4,6 kN	8,5 kN	22,4 kN	40,5 kN	87 kN
Actuator Series MA					
Size	814	814	814		
Stroke, max.	180 mm	200 mm	250 mm		
Diaphragm effective area	2825 cm^2	2825 cm^2	2825 cm^2		
No. of springs	1–2	1–2	1–2		
Actuating force, spring, max.	22 kN	19 kN	19 kN		
Actuating force, air, max.	149 kN	149 kN	124 kN		

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.

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