



DESCRIPTION

# VA9208C

24V rotary electromotive spring return actuator proportional (0-10V) to drive Pressure Independent Control Valve **EvoPICV series 83**.

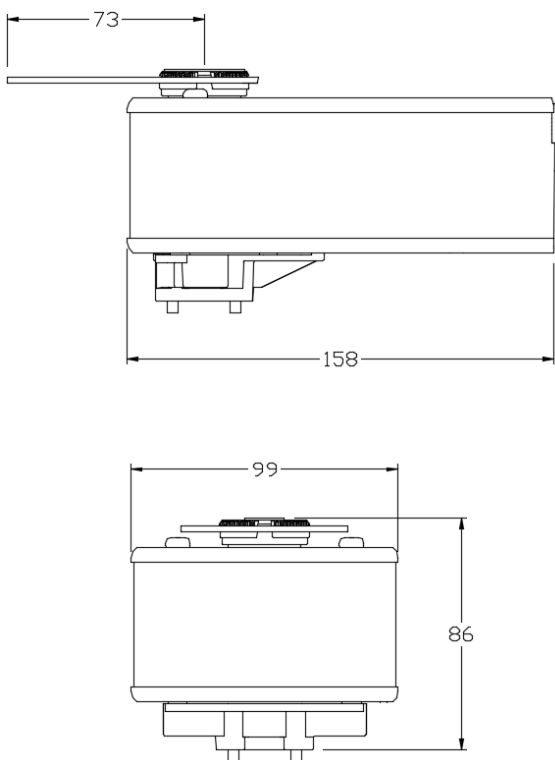
With manual override, angle indication and connecting cable included.

**Reversible mounting.**

DC brushless motor to keep rotation speed constant.

**Spring return** system provides rated torque returning the valve to the home position, also when power supply fails.

DIMENSIONS



Dimensions in mm

TECHNICAL FEATURES

Type	Proportional 0(2)-10V
Additional control signal	0(4)-20mA with 500 Ω resistor*
Supply voltage	24V AC/DC – 50/60 Hz
Power consumption	7.9 VA – Stand-by 5.5 VA
Max. rotation	0 – 95°
Feedback	0(2) - 10 V
Torque	8 Nm
Running time	150 s – 95° power on; 17 ÷ 25 s – 95° power off; 90 s calibration
Life cycle	60.000
Storage temperature range	-40° / + 85°C (@)
Ambient temperature range	-40° / + 60° C (@)
Degree of protection	IP54 (NEMA 2)
Weight	1.6 kg
Connecting cable	1.2 m UL758 Type AWM halogen free with 18 AWG, 6 mm ferrule ends
Connection to valve	F03, 9mm square, EN5211
Noise level	<35 dBA (running); <52 dBA (spring returning) (@) no condensation * not supplied

Electromotive actuators **VA9208C - 24V** are used to make proportional control systems, managed by BMS handling 0(2)-10 V voltage signal or 0(4)-20 mA current signal, of HVAC installations where **EvoPICV** balancing valves are exploited; in order to set the presetting during valve commissioning the presetting accessory **081PR1** is needed, which is included in models **83PR1** and has to be ordered separately in models **83JP**.

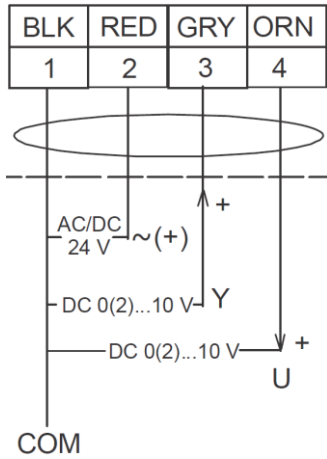
For further information about electrical connections, see the specific section.

APPROVALS

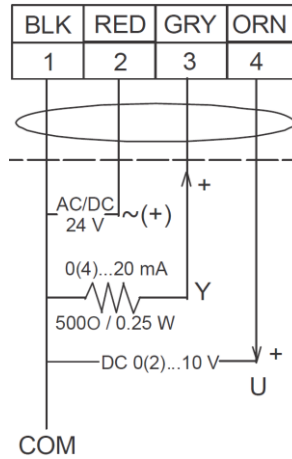


CONNECTION SCHEMES

Connection 0(2) – 10 V control signal

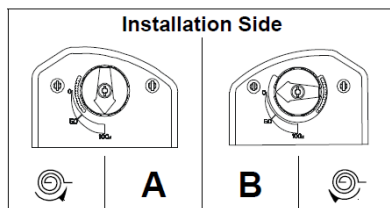


Connection 0(4) – 20 mA control signal



BLK	Black
RED	Red
GRY	Grey
ORN	Orange

SETTINGS



Actuators **VA9208C** have an external mode selection switch to calibrate, select input signal range, and reverse control logic. The switch is accessible from both A and B sides of the actuator. Actuators are delivered in Direct Acting (DA), DC 0 to 10 V input signal mode. To change to Reverse Acting (RA) mode, move the mode selection switch from DA to RA (see figure beside). The input signal range is selectable between DC 0 to 10 V or DC 2 to 10 V.

Input Signal	Mode Selection Switch			
	DA 0-10	RA 2-10	RA 0-10	DA 2-10
Increasing	↘	↘	↘	↘
Decreasing	↙	↙	↙	↙

If the CAL function is not used, both input signal ranges are proportioned across the full rotation range of 0 to 100% rotation. For example, if a DC 0 to 10 V input signal is selected and the rotation range is limited to 75%, the rotation range limit will be reached at DC 8.3 V.

Direction	Feedback	Rotation Position							
		0°*	15°	30°	45°	60°	75°	90°	
Direct Acting	0-10 V	0.0 V	1.7 V	3.3 V	5.0 V	6.7 V	8.3 V	10.0 V	
	2-10 V	2.0 V	3.3 V	4.7 V	6.0 V	7.3 V	8.7 V	10.0 V	
Reverse Acting	0-10 V	10.0 V	8.3 V	6.7 V	5.0 V	3.3 V	1.7 V	0.0 V	
	2-10 V	10.0 V	8.7 V	7.3 V	6.0 V	4.7 V	3.3 V	2.0 V	



\* 0° is the Spring Return position

Calibration (CAL) function

The CAL function enables the actuator to redefine the selected input signal range proportionally across a reduced rotation range. The actuator maintains calibration when power is lost or removed.

Follow these steps to calibrate the input signal range:

- With power applied to the actuator, move the mode selection switch to the CAL position and leave it in this position for approximately 5 seconds. The actuator begins rotating until the end-stops are found.
- Move the mode selection switch to the desired input signal range. Selection can be made while the calibration process is in progress, or after it is complete. The selected input signal is proportionally reconfigured to the reduced rotation range.

**Note:** During normal operation, if the actuator stroke increases due to seal or seat wear, input signals are automatically reconfigured to the increased rotation range in approximately 0.5° increments.

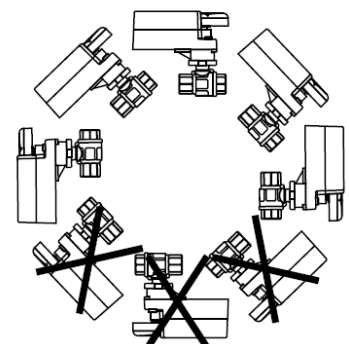
- If the actuator mounting position is changed or if the linkage is adjusted, repeat Step 1 and Step 2 to repeat the CAL function.

**Note:** The mode selection switch must remain out of the CAL position for at least 2 seconds before re-initiating the CAL function.

**Note:** If the mode selection switch is left in the CAL position, the actuator defaults to 0-10 V input signal range, DA.

INSTALLATION

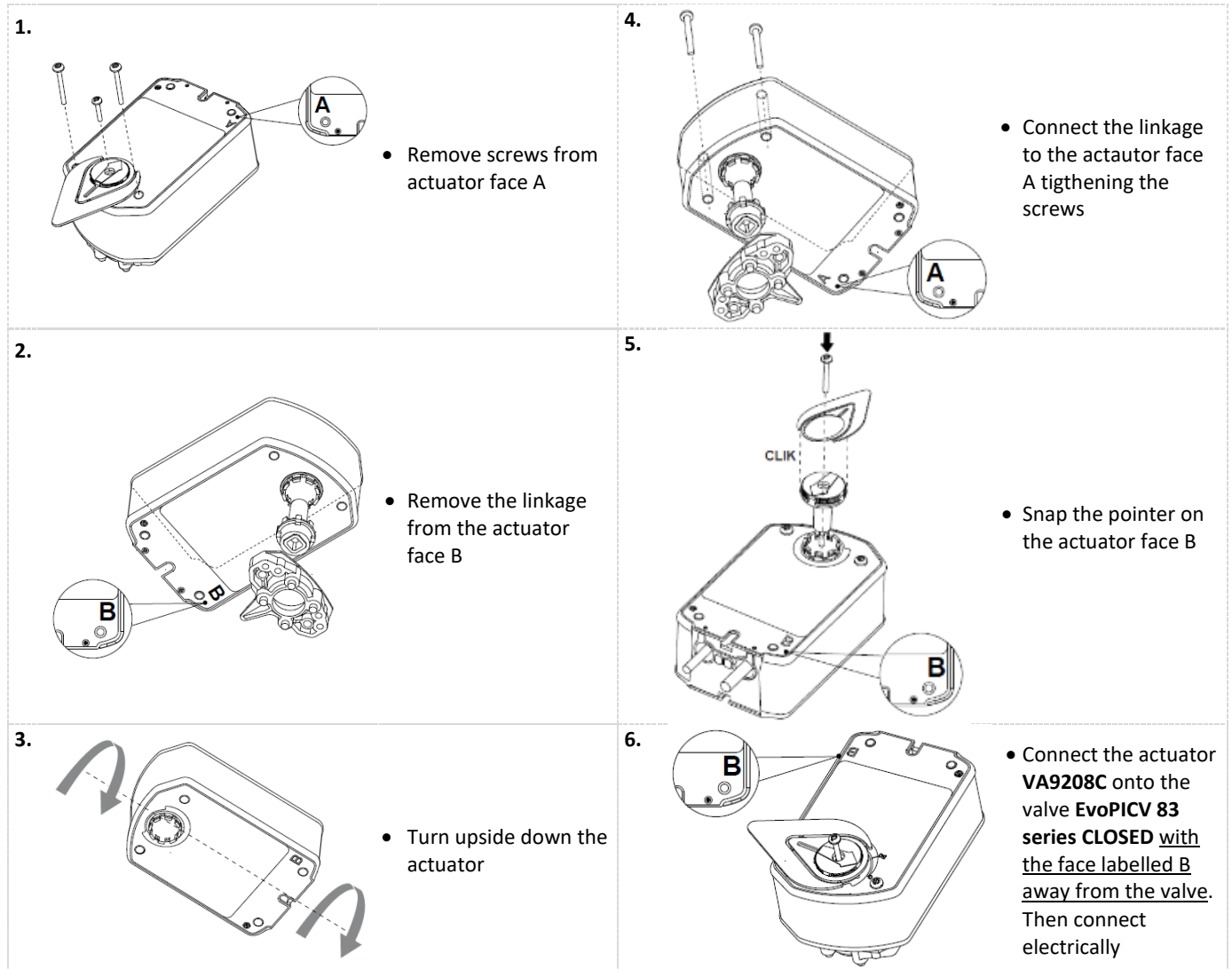
It is highly suggested to install **VA9208C** electromotive actuators in safe orientation that means potential leakage from the stem does not damage them. Thus any upside down installation must be avoided, as shown by the figure beside.



**ACTUATOR ASSEMBLY**

The actuator **VA9208C** can be assembled on **EvoPICV 83 series** on both sides (reversible mounting): mounting position is selectable, according to spring return direction. With actuator face labelled A away from valve spring return rotates counter clockwise (**CCW**); with actuator face labelled B away from valve spring return rotates clockwise (**CW**).

The actuator **VA9208C** is delivered ready to be direct connected onto the **EvoPICV 83 series** with face B away from de valve (spring return rotates clockwise) so that the spring return works to close the **EvoPICV 83 series** since the spring return rotation is clockwise. **So the face B must be away from the valve (VALVE CLOSED) and the mode selection switch must be on counter clockwise (DA).** If the actuator wrongly comes with the face A away from the valve, carry out the following procedure to turn it upside down:



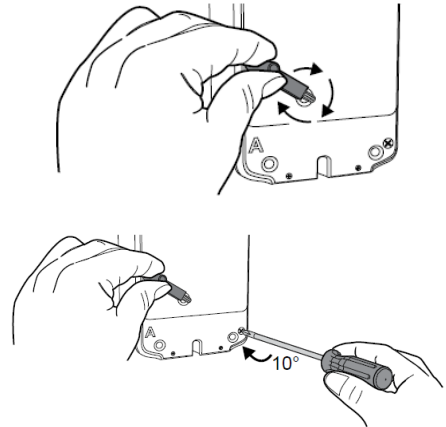
The picture below shows the actuator **VA9208C** correctly mounted onto a **83PR1** valve.



**MANUAL OVERRIDE**

If a manual opening of the valve is needed, proceed as follows:

1. Break energy supply
2. Insert the Allen key (hex key) into the manual override adjustment point on the actuator face
3. Turn the key in the direction indicated on the actuator face (see figure beside)
4. The manual override has to be rotate from the fully spring return position to stroke end. The torque increases at the end of rotation. Do not force over end stroke position.
5. While holding the manual override, turn the red lock shaft 10° to lock the actuator hub in place (see figure beside)



To unlock the hub, slightly turn the override with specific key in the direction indicated by the arrow. If the actuator is powered on, the manual override automatically unlocks.