



DESCRIPTION

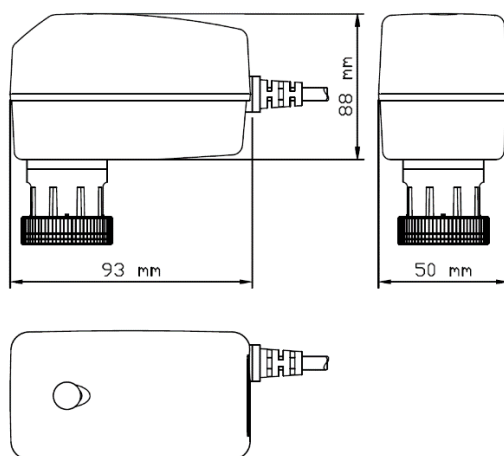
RVAZ2C

24V electromotive proportional actuator (INPUT signal 0(2)-10V DC / 0(4)-20mA) to drive Pettinaroli's **PICV 92H 1 1/2"**.

Equipped with valve stroke detection system and feedback (0-10V DC) to verify the position of the actuator at every moment.

Connection M30x1,5 ring nut and adaptable to Pettinaroli's standards through specific adaptor.

DIMENSIONS



TECHNICAL FEATURES

Type	Proportional	Visual position indicator	LED
Supply voltage	24V AC/DC ± 15%	Configuration of the actuator	By DIP switches
Inrush current	1,8 A	Temperature ambient range	0 °C / 50 °C (non condensing)
Power consumption	2 W / 6 VA	Umidity ambient range	0% / 95% RH (non condensing)
Control signal	0(2)-10V DC / 0(4)-20mA	IP class	IP54
Feedback signal	0-10V DC	Manual override	By 4 mm Allen key
Stroke	1 – 8,5 mm	Connection cable	4 x 0,25 mm ² (halogen free)
Running time	5,5 s/mm	Cable lenght	1,5 m
Actuating force	200 N	Adaptor	0A748X (not included)

The RVAZ2C electromotive actuator is used to drive in proportional mode pressure independent control valves controlling heating and cooling system by means of BMS (Building Management System) or suitable thermostat able to manage 0-10V signals. For more details about the wiring see the specific chapter below.

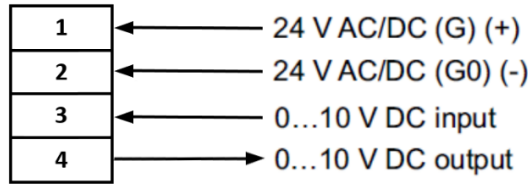
In order to install the actuator on Pettinaroli's **92H 1 1/2"** valves it is necessary to use a suitable adapter (**0A748X**) which is not included with the actuator and must be purchased separately.



Adaptor **0A748X**

ELECTRICAL CONNECTIONS

The electrical connections are shown below:



1	2	3	4
Black	White	Red	Green

OPERATING STATUS INDICATOR

The RVAZ2C electromotive actuator is equipped with a two color LED (red/green) which allows to evaluate the operating status of the actuator in accordance with the table below:

	LED off	No power supply
	Green LED fixed light	Actuator moving, under operation
	Green LED quick flash	Stroke adaption
	Green LED slow flash (Flash twice + Off 2 sec.)	Bottom end of stroke detected (0 % of the stroke)
	Green LED slow flash (Flash twice + On 1 sec. + Off 1 sec.)	Top end of stroke detected (100 % of the stroke)
	Red LED fixed light	Error on the internal limit switches / more than 2 errors
	Red LED quick flash	Error on one of the internal limit switches
	Red LED slow flash (Flash once + Off 2 sec.)	Settings changed during operation
	Red LED slow flash (Flash twice + Off 2 sec.)	Auto stroke adapt fault

INSTALLATION

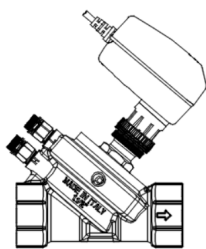


Fig. 1

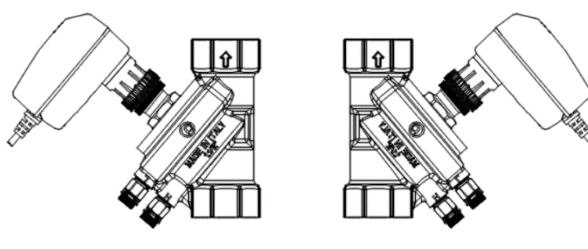


Fig. 2

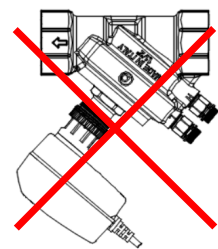


Fig. 3

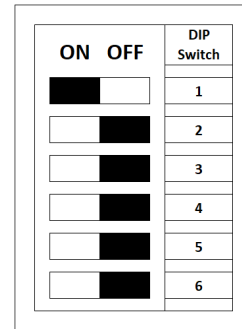
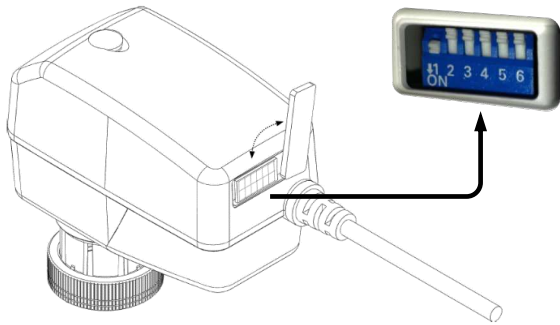
- For electrical safety reasons the RVAZ2C electromotive actuator has to be installed as shown by pictures 1 and 2. The upside down installation shown in picture 3 must be avoided. Always install the actuator with the pin in fully retracted position;
- Do not power the actuator if not installed on the valve;
- Tighten the connecting ring by hand only. Do not use any tools;
- Keep a clear space of 15 cm over the actuator to access it, if required.

APPROVALS



SETTING

The RVAZ2C electromotive actuator is equipped with 6 DIP switches that allow to configure the product according to the operating needs. They are placed on the back of the actuator and can be accessed by moving the rubber cap placed as protection (it is not necessary to remove it from the body). To operate on the switches a screwdriver is recommended.



Default configuration of the actuator

Each DIP switch allows you to set a given "parameter" of the actuator. By selecting the position between ON and OFF, it is possible to configure the actuator with the following settings:

DIP Switch	Configuration	POS.	SETTING
1	Operational direction of the valve	ON	When the stem of the actuator extends, the valve closes
		OFF	When the stem of the actuator retracts, the valve closes
2	Desired effective characteristic	ON	Desired control characteristic LINEAR
		OFF	Desired control characteristic EQUAL PERCENTAGE
3	Working direction in function of the control signal	ON	Reverse action: the actuator closes the valve on increasing control signal*
		OFF	Direct action: the actuator opens the valve on increasing control signal**
4	Control signal range	ON	2-10V DC (if switch 6 OFF) – 4-20mA (if switch 6 ON)
		OFF	0-10V DC (if switch 6 OFF) – 0-20mA (if switch 6 ON)
5	Valve flow characteristic	ON	Valve control characteristic equal percentage
		OFF	Valve control characteristic linear
6	Control signal type: voltage or current	ON	Input signal in current: 0(4)-20mA
		OFF	Input signal in voltage: 0(2)-10V DC

*(0V → valve open; 10V → valve closed) **(0V → valve closed; 10V → valve open)

! When the manual rubber seal is open, IP54 rating no longer applies.

CHARACTERISTIC CURVE

The desired effective characteristic curve is given by a combination of the actuator curve and the curve of the control valve.

DIP switch 2 is used to select the desired characteristic curve while DIP switch 5 is used to set the valve's own characteristic curve.

The table alongside summarizes the four possible combinations:

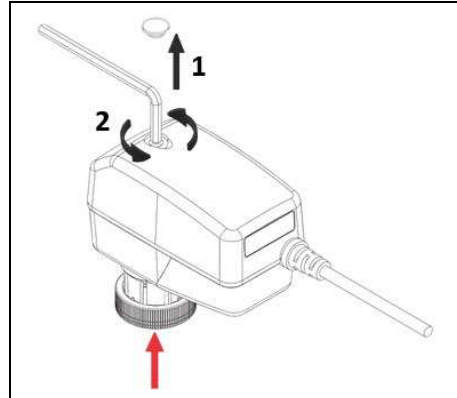
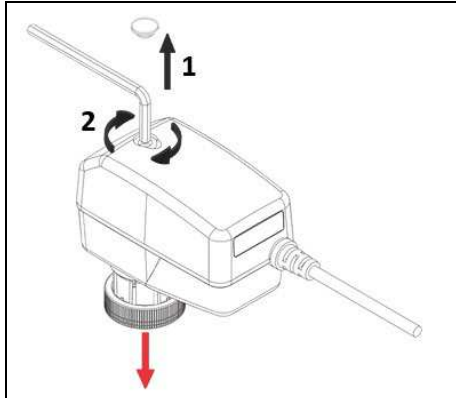
- Linear control valve & Desired characteristic curve linear
- Linear control valve & Desired characteristic curve equal percentage
- Equal percentage control valve & Desired characteristic curve equal percentage
- Equal percentage control valve & Desired characteristic curve linear

		Desired characteristic curve	
		LINEAR	EQM.
Control valve characteristic	LINEAR		
	EQM.		
		Switch 2 → ON Switch 5 → OFF	Switch 2 → ON Switch 5 → OFF
		Switch 2 → ON Switch 5 → OFF	Switch 2 → ON Switch 5 → OFF

MANUAL OVERRIDE

If necessary it is possible to manually operate the actuator by using a 4 mm Allen key supplied in pair with the actuator itself. To do this you need to follow the following steps:

1. Remove the manual override rubber seal placed on the front of the actuator;
2. Insert the Allen key to turn the existing lead screw. In particular, turn it **CLOCKWISE** to extend the stem (closing the valve) while turn it **COUNTERCLOCKWISE** to retract the stem (opening the valve).



! When the manual rubber override seal is open, IP54 rating no longer applies.