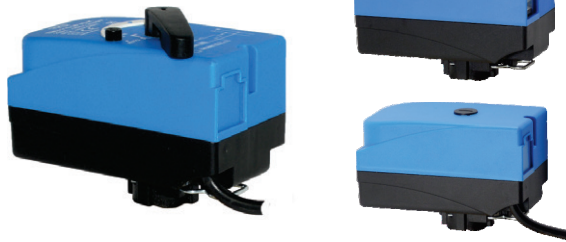


# S9000 - 3P

## FIRST ELECTRIC ACTUATORS EMV 110

with Clip system for 2-way and 3-way valves



FIRST actuators EMV 110, series S9000 3P, are 3-point actuators designed for operating 2-way and 3-way valves with clip system (DN 15 - DN 32).

- The FIRST S9000 3P actuators have defined direction of rotation (90° rotating angle).
- Actuators are available with cable or Molex connection with or without manual control handle.
- Recommended for mixing and diverting applications.

### OPERATION

S9000 3P is an electric actuator designed for operating 2-way and 3-way valves. Actuators are controlled by 3-point SPDT signal. FIRST S9000 3P actuators allow high regulating accuracy and easy installation with one-click CLIP system.

Actuators are available in 230 V AC 50 Hz or 24 V AC 50 Hz and are supplied with a 1m attached connection cable or Molex connector. Actuator can be manually operated with handle and button on the cover.

Actuators S9FR0 are recommended for mixing or diverting applications with FBV 230C valves from DN20 to DN 32 or FBV 330C valves. Actuators can also be used for on/off applications with FBV 200C valves and modulating water control with FBV 200C-M control valves.

### MAINTENANCE

Actuator requires no maintenance. The installation of suitable strainer is recommended.

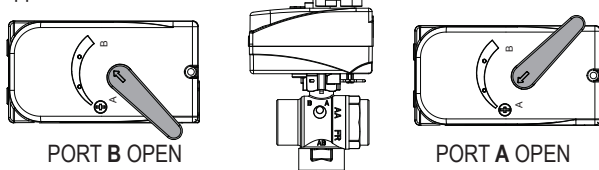
### TECHNICAL DATA: ACTUATOR

Control:	3-point SPDT
Supply voltage:	230 VAC 50Hz / 24 VAC 50Hz
Rotation time:	20s/90°, 40s/90°, 55s/90°, 80s/90°, 110s/90°, 220s/90°
Power consumption:	5 VA (operation), 0 VA (stand by)
Max. Torque:	5 Nm
Protection class:	II
Enclosure rating:	IP40 (Molex), IP44 (Cable connection), IP44 (specially sealed Molex cable)
Connection:	cable 1 m, 3 x 0,75 mm <sup>2</sup> / Molex connector
Direction of rotation:	CW/CCW defined 90° angle
Manual operation:	with or without handle and button on the cover
Position indicator:	handle with position indicator / position indicator
Media temperature:	+2°C..+110°C (With optional SCA adaptor -15°C to +125°C, briefly up to +150°C)
Ambient temperature:	0°C..+55°C
Storage temperature:	-10°C..+70°C
Humidity:	0%..80% R.H. (non condensed)

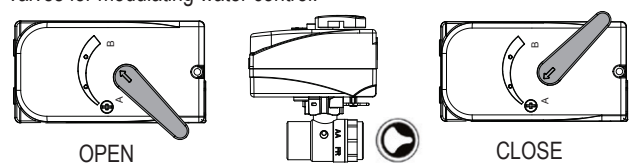
### INSTALLATION POSITION

Actuator can be installed only in one position.

**S9FR0** with **FBV 230C** valves for mixing or diverting applications.

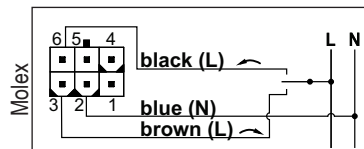
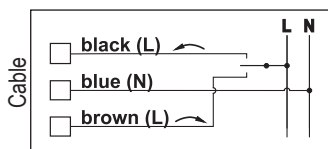


**S9FV0** with **FBV 200C** valves for on/off applications, or **FBV 200C-M** valves for modulating water control.

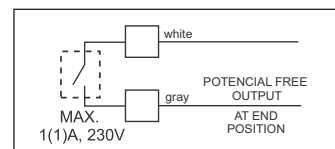


### ELECTRICAL CONNECTION

3- point control SPDT.



Optional: Potential free output S1.



### SUITABLE VALVES

**FBV 230C**

**FBV 330C**

**FBV 200C-M**

**FBV 200C**



### CLIP SYSTEM

Compact design of the valve allows easy assembling and disassembling. Clip system allows easy installation of the actuator on the valve body with single click, without any tools.



**CE** In accordance with PED, LVD, RoHS2, EMC



**FIRST d.o.o.**  
Koroška cesta 56  
SI-3320 Velenje  
SLOVENIA

phone: +386 3 898 35 00  
fax: +386 3 898 35 35  
email: info@first.si  
web: www.first.si

**www.first.si**  
Let First be your first choice.



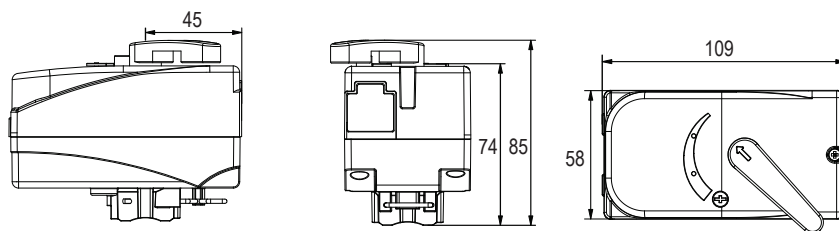
# S9000 - 3P

## FIRŠT ELECTRIC ACTUATORS EMV 110

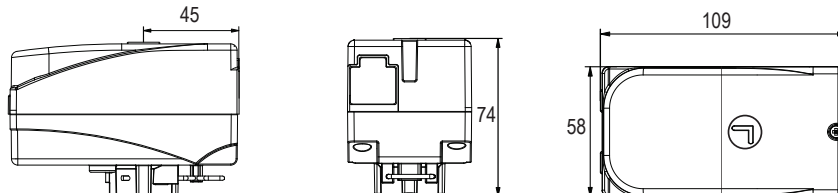
with Clip system for 2-way and 3 way valves

### S9000 3P,

actuator with manual control handle - S9FR0 / S9FV0



Actuator without manual control handle - S91V0

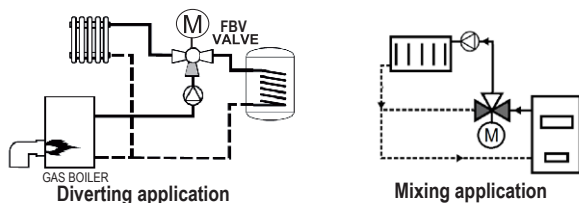


S9000 3P, for 2-way and 3-way valves (90° rotation)

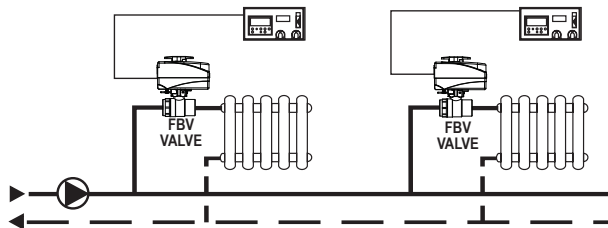
Code	Type	Voltage	Rotation time	Control signal	Connection	Max. torque [Nm]	Weight [kg]	Price (€)
14049	S9FR0-M 3P	230 VAC 50 Hz	110s/90°	3-point SPDT	Molex	5	0,33	
14050	S9FR0-K 3P	230 VAC 50 Hz	110s/90°	3-point SPDT	Cable	5	0,48	
14041	S9FV0-M 3P	230 VAC 50 Hz	20s/90°	3-point SPDT	Molex	5	0,33	
14042	S9FV0-K 3P	230 VAC 50 Hz	20s/90°	3-point SPDT	Cable	5	0,48	
14053	S91V0-M 3P	230 VAC 50 Hz	20s/90°	3-point SPDT	Molex	5	0,33	
14054	S91V0-K 3P	230 VAC 50 Hz	20s/90°	3-point SPDT	Cable	5	0,48	

#### Installation examples

Actuators 9FR0 with FBV 230C valves.



Actuators 9FV0 with FBV 200C / FBV 200C-M valves.



#### Features and options

- **Auxiliary switch:** one potential free auxiliary switch in the end position of the actuator is available as an option.
- **Power supply:** 230V 50Hz or 24V 50Hz
- **Connection:** Molex connector (IP40) and optional specially sealed Molex cable (IP44) or cable (3x0,75mm<sup>2</sup> l=1m) - (IP44).
- **Different running times:** 20s/90°, 40s/90°, 55s/90°, 80s/90°, 110s/90°, 220s/90°.
- **Solar/cooling adapter:** Heat barrier for protection of the actuator in solar or cooling systems.
- **Manual control handle:** with or without manual control handle.

#### DIFFERENT OPTIONS

- Solar/ cooling adapter.



- Special Molex IP44 connector



- Without manual control handle



- With cable connection

