

**ELECTRO-MOTOR ACTUATED ZONE BALL VALVES**  
**SERIES EMV 110 502 in EMV 110 503**  
with standard built in relay  
(EMV 110..7930)

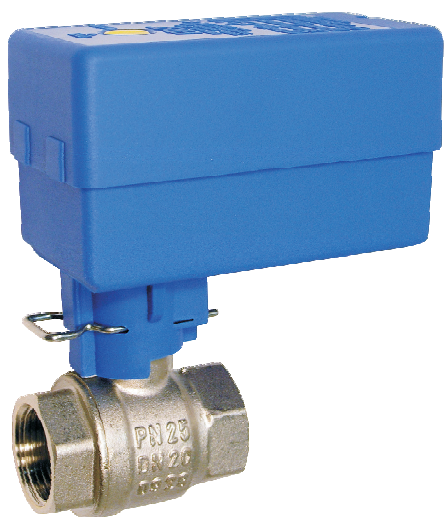
**FIRST®**

**GENERAL**

Electric motor driven ball valves, EMV 110 502 and 503 series, are used as closing elements for heating systems (solar, remote, house-heating), for hot blast heating, cooling systems, swimming pools, petrochemical industry, alternative heating sources and agricultural purposes.

With pride and joy we present to you our new generation of electric motor driven ball valves. They are constructed in compliance with most European standards and currently valid safety regulations. They are made of environmentally material.

Follow the instructions for use carefully and our many years experience in the production of electric motor drives will be a guarantee for a long life and reliable operation of the ball valve.



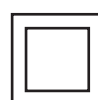
**Series 502**



**Series 503**

Advantages

- \* Compact version enables quick installation and electrical connection without opening drive.
- \* All models have built-in relay module which enables two wire control SPST.
- \* Simple disassembly of the drive with clip
- \* Electric signal - L (live) when the valve is open and can control the pump.
- \* Flow indicator on the cover of the actuator
- \* Moderate velocity of ball rotation prevents hydraulic shocks in installation.
- \* Disassembly of installation is not required for the replacement of neck seals.
- \* Due to self cleaning effect the valve need not be disassembled (if solid particles enter the valve), because motor turn ball to opposite direction.



**FIRST®**

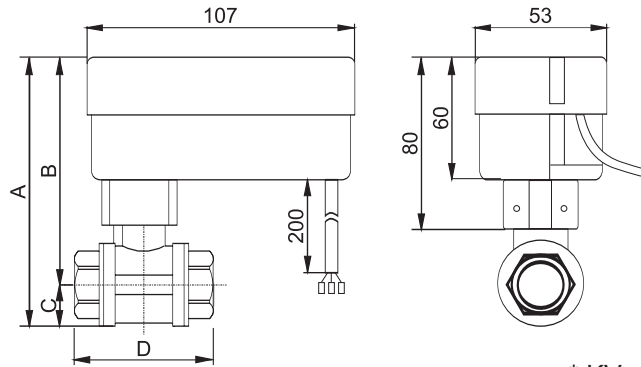
**FIRŠT-ROTOTEHNIKA, s.p.:** Radegunda 54, 3330 Mozirje

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**SERIES 502****ELECTRO-MOTOR ACTUATED ZONE BALL VALVE**  
Ends: female/female**Electro-motor actuator**

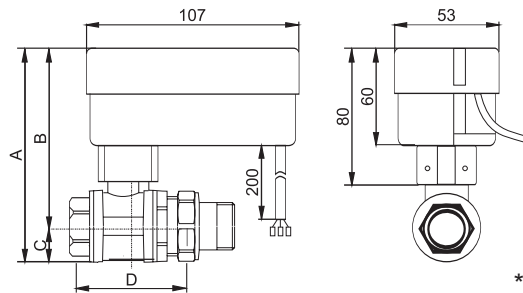
EMV 110...7930  
 Rotation time: 30s/90°  
 Power supply: 230V, 50 Hz  
 Built in relay  
 Drive protection class IP 44  
 Electrical protection: class II

\* Kv=m<sup>3</sup>/h Δp=1bar

TYPE	DN	G	A	B	C	D	Kv	Kg	CODE
EMV 110 502/7930-2	15	1/2"	126	108,5	17,5	63	17	0,86	10502
EMV 110 502/7930-3	20	3/4"	129	109,5	19,5	57	41	0,82	10503
EMV 110 502/7930-4	25	1"	137	113,5	23,5	68	68	0,98	10504

**SERIES 503****ELECTRO-MOTOR ACTUATED ZONE BALL VALVE**  
Ends: male/ female hose union**Electro-motor actuator**

EMV 110...7930  
 Rotation time: 30s/90°  
 Power supply: 230V, 50 Hz  
 Built in relay  
 Drive protection class IP 44  
 Electrical protection: class II

\* Kv=m<sup>3</sup>/h Δp=1bar

TYPE	DN	G	A	B	C	D	E	Kv	Kg	CODE
EMV 110 503/7930-2	15	1/2"	121	103,5	17,5	99	86	17	0,89	10512
EMV 110 503/7930-3	20	3/4"	124	104,5	19,5	90,5	77,5	41	0,87	10513
EMV 110 503/7930-4	25	1"	129	105,5	23,5	104	90	68	1,04	10514

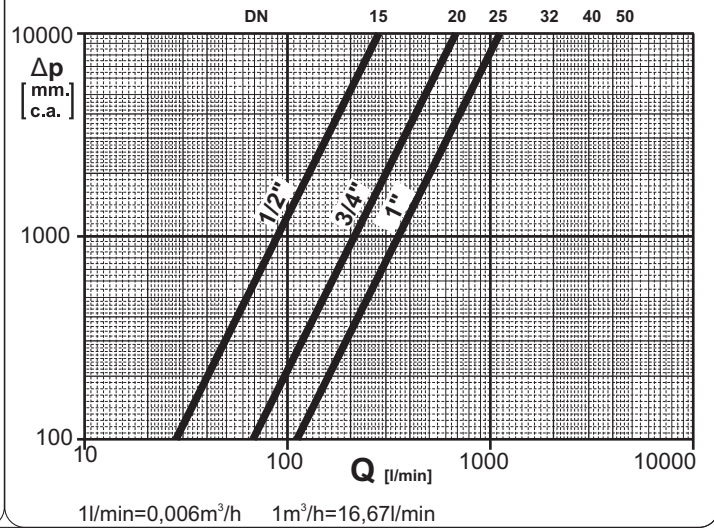
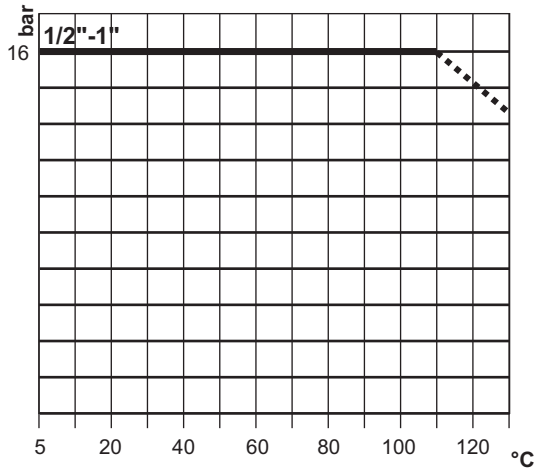
**SPECIFICATIONS****Electric actuator**

Power supply: 230V, 50/60Hz (EMV 110..7930)  
 24V, 50/60Hz (EMV 110..7933)  
 Micro-switch rating: 1(1) A, 250 V, 50 Hz  
 Power consumption: 7VA by operation  
 3 VA by stand by  
 Electrical protection: class II according to EN-60335-1  
 Drive protection class: IP 44 according to IEC 529  
 Rotation time: 30s/90°  
 Ambient temperature: 0°C to max. 55°C  
 Humidity: RH0% - 80% NON CONDESED  
 Max. operating torque: 8 Nm  
 connection cord: 4 x 0.5 mm<sup>2</sup>, length 0,3m  
 Note: The motorized ball valve is designed for operation by SPST ( — — ) type of control.

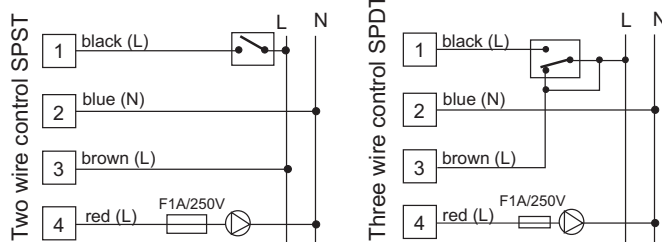
**Valve:**

Medium temperature: 5°C.. 110°C  
 Max. operating pressure: PN 16  
 Medium: water, nonagressive fluid

**FLOW DIAGRAM**



**WIRING DIAGRAM:**

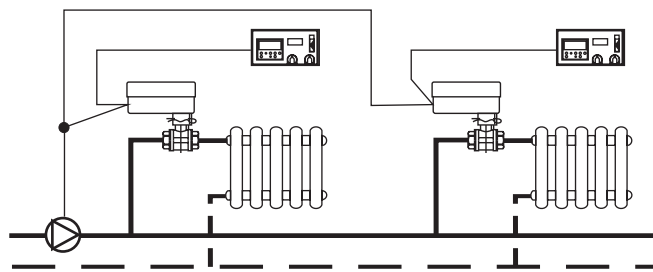


Circulation pump can be controlled at OPEN valve position by RED wire. Signal on the red wire is live (L) and can be used for inductive load up to one (1) A, 250VAC. For load which consumption is more than 1 A must be used external relay.

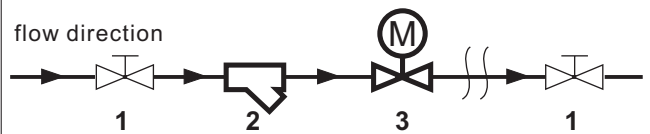
**! IMPORTANT !**

The electrical line supplying the actuator, the time counter and room thermostat must start from the thermal plant, so as to avoid tampering by user. Before any repair of the valve or the actuator disconnect the supply voltage.

**Examples for use:**



**Hydraulic installation - recommended installation**



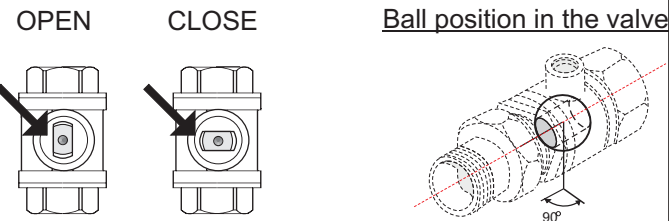
- 1 - manual stop valve
- 2 - strainer with the mesh width 0,65 mm
- 3 - motor actuated ball valve series EMV 110...

**IMPORTANT !**

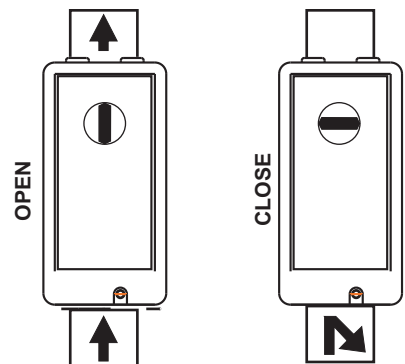
To extend the long term performance of the motorized ball valve it is recommended that a strainer is situated prior to the valve. By installation must be observed to according to relevant standards.

**BALL VALVE'S STEM POSITION**

By valve which is built in installation, OPEN/CLOSE condition is recognized from stem position.



**FLOW INDICATOR ON THE COVER OF THE ACTUATOR**



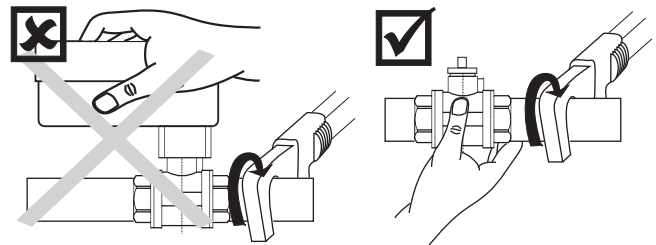
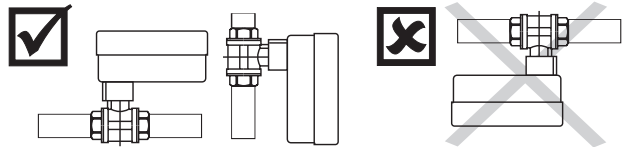
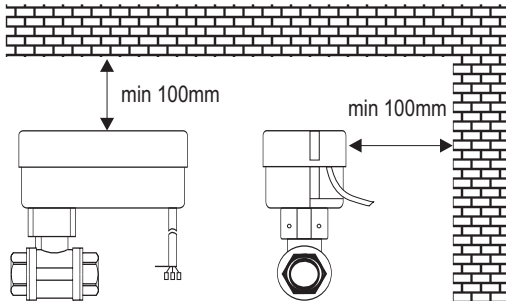
## INSTALLATION

### Warning

Installation should be carried by a qualified person!

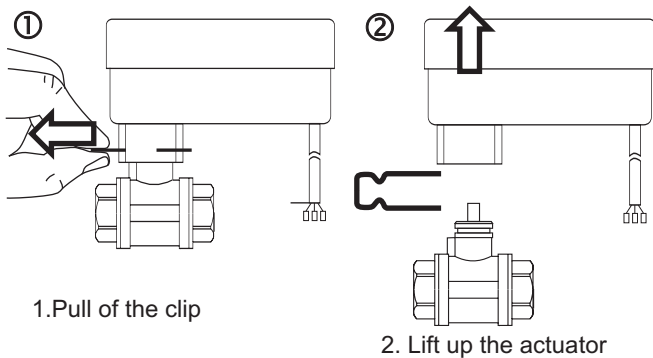
Before the installation:

- Carefully read this manual. Unconsideration of manual could cause damage or wrong working of product.
- After installing check correct working.



## INSTALLING:

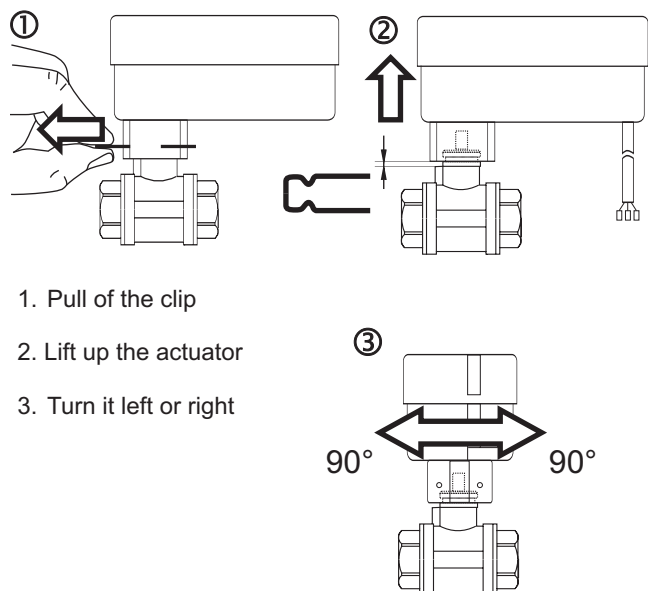
\* Before installing the valve into pipe system you can remove the actuator from the valve.



1. Pull of the clip

2. Lift up the actuator

## MANUAL OPENING / CLOSING

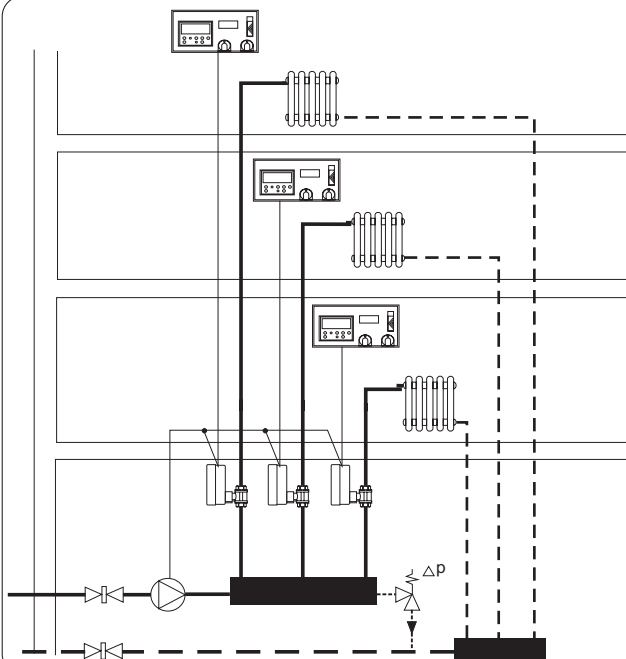


1. Pull of the clip

2. Lift up the actuator

3. Turn it left or right

90° 90°



## EXAMPLES FOR USE:

Heating control of each flat separated with one room thermostat and one electric actuated ball valve



Electro motor actuated ball valve  
EMV 110 502/7930



Room thermostat  
ELTHERM AD24  
ELTHERM TT8