

FH-MO / FH-S Series Motorized Ball Valve

"Precision metal gear, high strength, reliable performance, long service life."

"IP 67 protection, applicable for humid environment."

Features

- **Precision metal gear** — high strength, reliable performance, long service life.
- **Flame-retarded PC-ABS enclosure** with compact, refined structure.
- **Low power consumption**; battery operable.
- **Floating sealing ball valve design** for leak-free operation.
- **IP67 protection** — suitable for humid environments.
- **Visual position indicator** and manual override (optional).
- **Customizable connectors** to fit different control systems.
- **Multiple wiring options** for remote control and valve status feedback.



Figure 1: Actuator & valve assembly

Applications

Automatic remote fluid control for a variety of scenarios, including:

- Smart home systems
- Water treatment projects
- Smart water metering systems
- Fire sprinkler systems
- Water supply and drainage systems

Technical parameters

Table 1: General specification

PARAMETER	VALUE
Series	FH-MO / FH-S
Torque	2.5 N.M
Operating time	<5s
Working voltage	5V DC; 9-24V DC; 9-35V DC; 110-230V AC
Working current	<100mA
Max Power	5W
Medium temperature	0 -- 100°C / 32-212°F
Ambient temperature	-20 -- 45°C / -4 -113°F
Humidity	95%
Max pressure	1.0Mpa
Enclosure	IP67
Service life	50,000-80,000 times
Wiring	OP01, OP02, OP03, OP04, OP05 optional

Note: Voltage and wiring options vary by actuator model. Confirm the actuator option (OP01–OP05) when ordering.

Dimensions (mm)

Table 2: Unit Dimensions

Size	Thread (D1/D2)	OD	L1	L2/L3	F	H1	H2	Weight (kg)
DN8	G1/4"	8	45	10	21	68	42	0.26
DN15	G1/2"	15	57	11	25	71	42	0.32
DN20	G3/4"	20	63	12	31	74	42	0.41
DN25	G1"	25	73	16	37	77	42	0.52

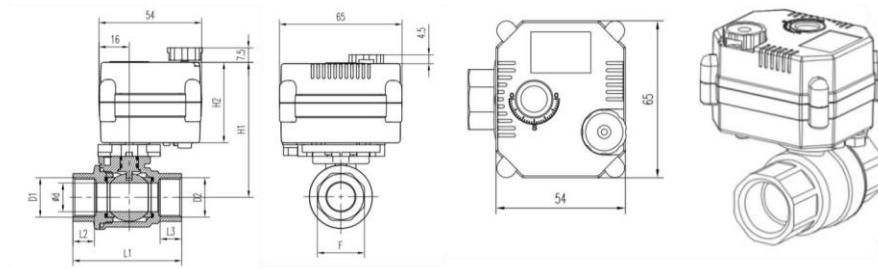


Figure 2: Dimensions

Main Components

Table 3: Components & Materials

Component	Material
Actuator Housing	PC-ABS
Valve Body	PVC / Brass / SS304
Valve Ball	PVC / Brass / SS304
Stem	Brass / SS304
Ball Seat	PTFE
Seal	Silicone Rubber (FPM/NBR optional)

Manual Override

Manual override function is usually for occasions such as power outage, commissioning etc.

1. Lift the handwheel to disengage the actuator.
2. Rotate to the desired position while observing the indicator.
3. Press the handwheel down to return to automatic mode.

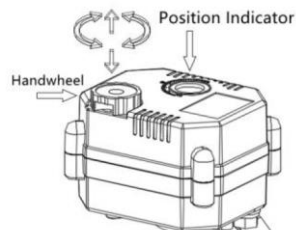


Figure 3: Position Indicator & Handwheel

Wiring Configurations

Cautions

- Make sure that the voltage of power supply meets the requirement of the actuator.
- The wiring should comply with local standards and operated by qualified personnel. When installing or repairing, the power should be cut off to prevent electric shock and damage to the equipment.
- For the illustration below, the valve is normally closed by default.

<p>OP01</p>	<ol style="list-style-type: none"> 1. Set SW to [OPEN], the electric valve opens, and it stays in position after it is fully opened. The valve is de-energized (no power consumption). 2. Set SW to [CLOSE], the electric valve closes, and it stays in position after it is fully closed. The valve is de-energized (no power consumption). <p>※ In case of power loss, valve will remain in its current state. ※ Voltage of power supply for option: 5V DC/12V DC/9-35V DC</p>
<p>OP02</p>	<p>Both AC and DC power supply workable, while powered with DC power supply, connect the black wire to the (-) pole of power source.</p> <ol style="list-style-type: none"> 2. Set SW to [OPEN], the electric valve opens, and it stays in position after it is fully opened. The valve is de-energized (no power consumption). 3. Set SW to [CLOSE], the electric valve closes, and it stays in position after it is fully closed. The valve is de-energized (no power consumption). <p>※ In case of power loss, valve will remain in its current state. ※ Voltages for option: 5V DC/9-35V DC/220V AC</p>
<p>OP03</p>	<ol style="list-style-type: none"> 1. Both AC and DC power supply workable for OP03. When the power supply is DC, connect red wire to the (+) pole and black wire to the (-) pole. 2. Turn the SW on, the electric valve opens, and it stays in position after it is fully opened. 3. Disconnect the SW, the electric valve closes, and it stays in position after it is fully closed. <p>※ Voltages for option: 5V DC/9-24V DC/220V AC</p>
<p>OP04</p>	<ol style="list-style-type: none"> 1. Both AC and DC power supply workable. Normal Closed type Control. 2. Turn the SW on, the electric valve opens, and it stays in position after it is fully opened. There is nominal power consumption. 3. Disconnect the SW (or the power is lost for any other reason), the electric valve closes. <p>※ Voltages for option: 5V DC/9-24V DC/110-230V AC</p>
<p>OP05</p>	<ol style="list-style-type: none"> 1. Set SW to [OPEN] - the red wire connect to the (+) pole of power supply, the black wire connect to the (-) pole of power supply, and connect the green wire with fully-open control terminal on the control device, the yellow wire with fully-closed control terminal, white wire is the common wire, when the electric valve fully opens, the green wire outputs valve-fully-open signal, with signal received, the SW is set to switch to STOP position, the valve stops action and keeps in fully open position. 2. Set SW to [CLOSE] - the red wire connect to the (-) pole of power supply, the black wire connect to the (+) pole of power supply, and connect the green wire with fully-open control terminal on the control device, the yellow wire with fully-closed control terminal, white wire is the common wire, when the electric valve fully closes, the yellow wire outputs valve-fully-closed signal, with signal received, the SW is set to switch to STOP position, the valve stops action and keeps in fully closed position. <p>※ Voltages for option: 5V DC/12V DC/24V DC</p>

Figure 4: Wiring Diagrams