

# FH-MO/FH-S series motorized ball valve

## Features

- Precision metal gear, high strength, reliable performance, long service life
- Flame retarded PC-ABS enclosure with compact, exquisite structure
- Low power consumption, battery workable
- Floating sealing ball valve, no leakage
- IP 67 protection, applicable for humid environment
- With visual position indicator and manual override for option
- Various connectors customizable
- Multiple wiring for remote control and valve status feedback to intelligent control unit



## Application

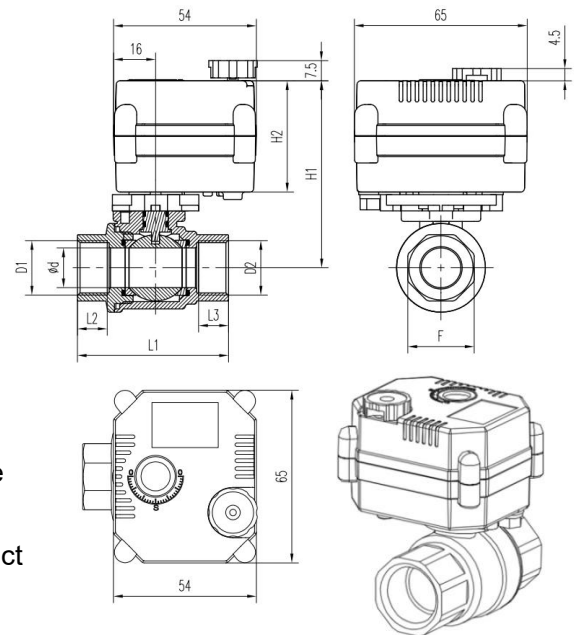
- Automatic remote fluid control for a variety of scenarios, such as smart home, water treatment project, smart water measuring system, fire sprinkler system, water supply and drainage system etc.

## Technical parameters

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

## Dimension (unit: mm)

Size	D1/D2	φd	L1	L2/L3	F	H1	H2	W(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



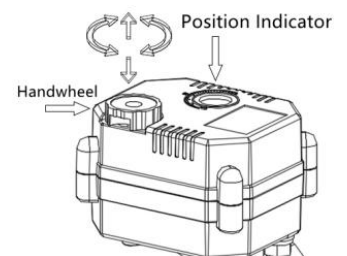
## Main components

Parts	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 seal are available for special medium, please contact the manufacturer for details.

## Instruction for manual override

1. Manual override function is usually for occasions such as power outage, commissioning etc.
2. Lift the hand-wheel up, observe the open angle through the position indicator, rotate the hand-wheel until the valve is in place.
3. Press down the hand-wheel to switch back to automatic control.



# Wiring

## Cautions

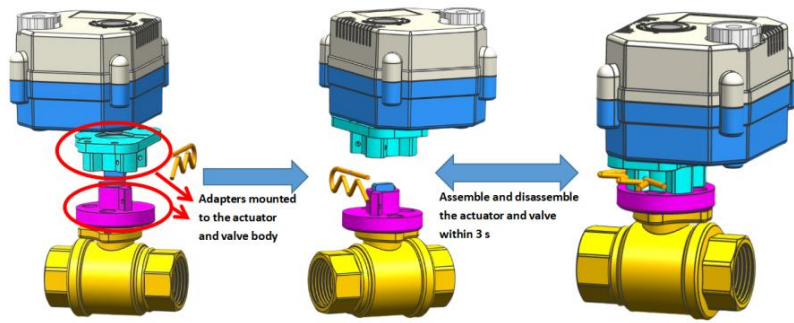
- ※ Make sure that the voltage of power supply meets the requirement of the actuator.
- ※ The wiring should comply with local standards and operated by qualified personnel. When installing or repairing, the power should be cut off to prevent electric shock and damage to the equipment.
- ※ For the illustration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

<p>OP01</p> <p style="text-align: right;">Wiring</p>	<ol style="list-style-type: none"> <li>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).</li> <li>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).</li> </ol> <ul style="list-style-type: none"> <li>※ In case of power loss, valve will remain in its current state.</li> <li>※ Voltage of power supply for option: 5V DC/12V DC/9-35V DC</li> </ul>
<p>OP02</p> <p style="text-align: right;">Wiring</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"> <li>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).</li> <li>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).</li> </ol> <ul style="list-style-type: none"> <li>※ In case of power loss, valve will remain in its current state.</li> <li>※ Voltages for option: 5V DC/9-35V DC/220V AC</li> </ul>
<p>OP03</p> <p style="text-align: right;">Wiring</p>	<ol style="list-style-type: none"> <li>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 .</li> <li>2. Turn the SW on, the electric valve opens, and it stays in position after it is fully opened.</li> <li>3. Disconnect the SW, the electric valve closes, and it stays in position after it is fully closed.</li> </ol> <ul style="list-style-type: none"> <li>※ Voltages for option: 5V DC/9-24V ADC/220V AC</li> </ul>
<p>OP04</p> <p style="text-align: right;">Wiring</p>	<ol style="list-style-type: none"> <li>1. Both AC and DC power supply workable. Normal Closed type Control.</li> <li>2. Turn the SW on, the electric valve opens, and it stays in position after it is fully opened. There is nominal power consumption.</li> <li>3. Disconnect the SW (or the power is lost for any other reason ), the electric valve closes.</li> </ol> <ul style="list-style-type: none"> <li>※ Voltages for option: 5V DC/9-24V ADC/110-230V AC</li> </ul>
<p>OP05</p> <p style="text-align: right;">Wiring</p>	<p>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.</p> <p>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> <ul style="list-style-type: none"> <li>※ Voltages for option: 5V DC/12V DC/24V DC</li> </ul>

# Feature functions for option and purchase guide

## Feature functions for option

- Quick Assemble-and-Disassemble Design for option



- ※ With adapters mounted to the actuator and valve, the valve and actuator can be assembled and disassembled **within 3s**, which makes:
  - ① installation and repairing much easier, saves labor cost;
  - ② tremendous reduction in inventory.

- Various connectors available for option



※ Various connectors customizable to fit into different control systems and meet requirement of different scenarios.

## Purchase guide

● Actuator						● Ball valve					
Wiring	Voltage	5V DC	12V DC	9-24V ADC	9-35V DC	220V AC	Size	Material	SS304	Brass	PVC
OP01				/		/	1/4" (DN8)				/
OP02				/			3/8" (DN10)				/
OP03					/		1/2" (DN15)				
OP04					/		3/4" (DN20)				
OP05				/	/	/	1" (DN25)				
<input type="checkbox"/> With manual override <input type="checkbox"/> Without manual override						※ Full port for SS304 and brass valve, reduced port for PVC valve ※ BSP or NPT thread available for option					

※ For customization, please contact your sales service.