

Selection Guide

The motorized ball valve is an electromechanical integrated device that relies on the rotation of the motor to pull the ball valve body to rotate. It is divided into two parts: the actuator and the valve body.

Motorized ball valves are generally installed in pipelines with fluids under different working conditions. When we select motorized ball valves, we must first make sure the relevant parameters of the valve body according to the pipeline working conditions, and then choose according to the relevant parameters of the pipeline control system and the valve body. And determine the relevant parameters of the actuator.

(1) Several elements of valve body selection

1. Pipeline pressure

All ball valve bodies of our company meet the requirements of systems with pipeline pressure not less than PN20, 200Bar, and 290Psi.

2. Valve body sizes

Commonly used threaded ball valves have calibers ranging from 1/2" to 2".

The diameter of flanged ball valve ranges from 1/2" ~4".

3. Valve body structure type

Our standard used ball valve types are: 2-way and 3-way.

4. Selection of valve body material

Generally, the selection of valve body material should consider several factors such as pipeline medium, medium temperature, operating conditions, and regulatory requirements.

- For drinking water, food equipment, medical equipment, please choose stainless steel valve body, our regular rust steel ball valve is 304, according to customer needs, or special corrosive liquids, please consult our sales. We can customize SS316, SS316L or other.

- For central air conditioning, heating, water treatment, agricultural irrigation, animal husbandry equipment, industrial equipment (oil cooling system, water cooling system, and industrial water system), fuel cell water cooling system, Hpb59-1 brass can be used.

- For seawater or corrosive liquids, you can also choose UPVC ball valves.

5. Temperature tolerance range

Normal temperature range is 2°C-90°C. We have started to upgrade the ball valve to the temperature range of -10°C~110°C.

If you have special temperature request like -10°C-120°C, please tell us before ordering.

6. The flow characteristics of the valve body

The flow characteristics of ball valves are divided into two types, the first types is the quick-open switch-type flow characteristics. The second types is equal percentage or linear regulation flow characteristics.

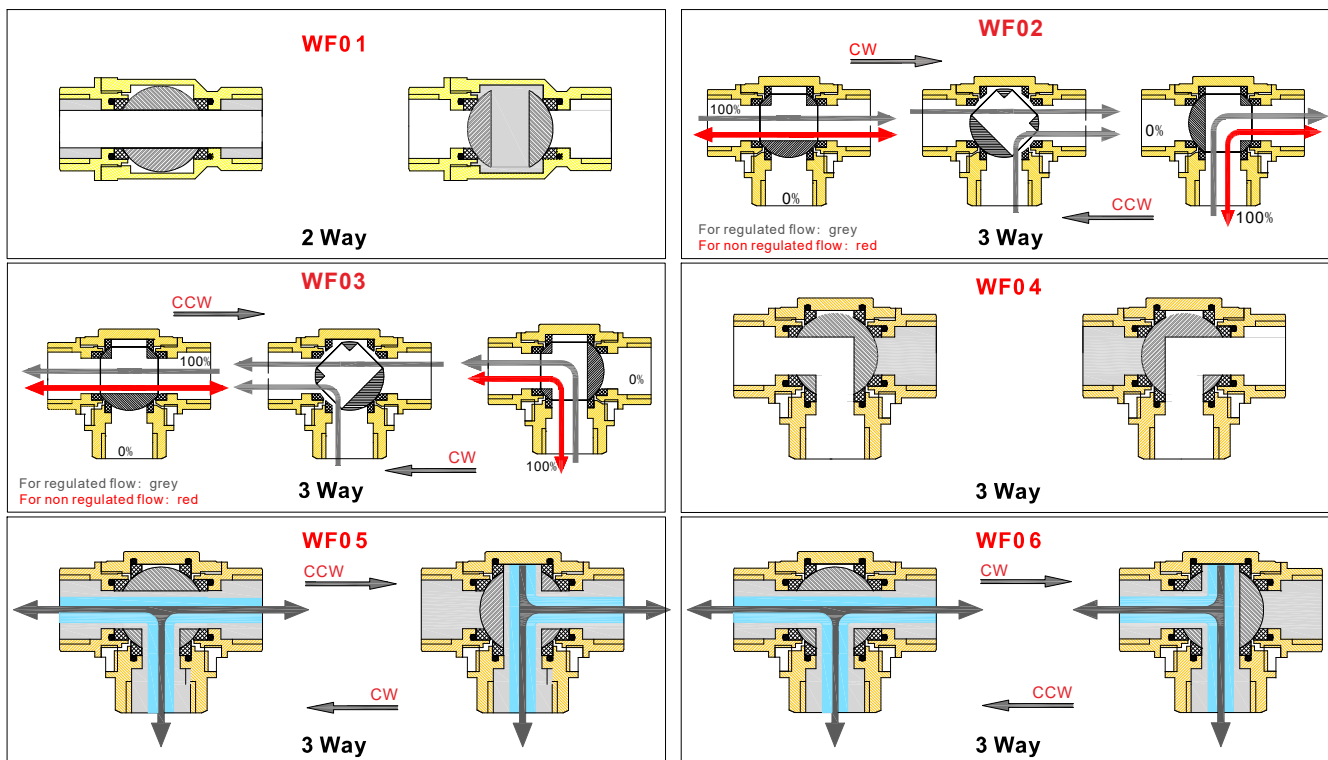
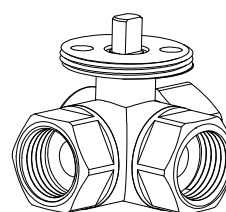
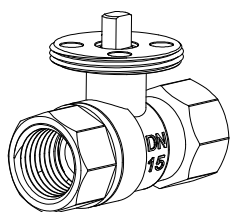
- If the valve body is only used to cut off or connect the fluid, or change the direction of medium flow, you can use the on-off type flow control valve body.

- If you need to adjust the flow, you can use an adjustable flow control valve body.

- If you need a ball valve with linear flow characteristics, equal percentage flow characteristics, or other special liquid or gas flow requirements, please inform us of your needs, and we can choose and customize for you.

7. Flow direction selection

Please choose the flow direction you need. Normally, WF01, WF02 and WF03 is in common use.



Remarks:

- (1) For on-off pipelines or switching pipelines, the inlet and outlet can be determined based on the actual situation on site.
- (2) For pipelines that adjust the flow rate or mix cold and hot water, installation can only be based on the inlet and outlet determined by the valve body.

(2) The selection elements of the actuator

Power supply voltage and control method are indispensable conditions when selecting an actuator.

1. Power supply voltage

- 230VAC, 110VAC, 24VAC,
- 24VAC/DC,
- 24VDC, 12VDC, 3VDC, 9~28VAC/DC

2. Control method

- On-Off control: The actuator will only stop in the fully open position and fully closed position.
- Floating-point switch type: Under the action of the external control circuit, the actuator will stop in the fully open position and fully closed position, and other positions in the middle.

• Proportional type:

Input signal: 0-10VDC, 4-20mA; Output signal: 0-10VDC

• Remote communication control:

We can provide MODBUS, mBUS protocol electric ball valve customization service.

3. Running time

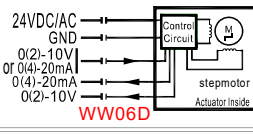
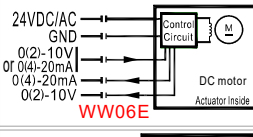
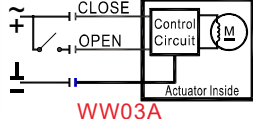
Different types and different series of actuators have different running times. If you don't mind or don't know the meaning of this parameter, please ignore it.

If you have requirements for the running time, please tell our sales staff about the running time requirements. Our sales staff will provide you with professional help.

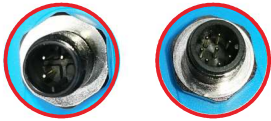
EVO 22 Motorized Ball Valve

- Manual function by screwdriver
- Display of switch angle position.
- IP67
- Environment temperature: -10~80 °C
- Small Size and Big Torque
- Installation is very convenient and reliable
- Can be installed both horizontally and vertically.
- Low energy consumption, limit protection, current limiting protection.
- Constant-current control

24VAC/DC Actuator




Model	Control Type	Power Supply	Parameter	Material	Wiring Diagram
WRA-2224S35	Proportion	24VAC/DC (19-30V)	Power in operation: 5W Power in rest position: 2W 4N.m Running time: 35s	Actuator shell: ABS	
WRA-2224S8			Power in operation: 4W Power in rest position: 2W 4N.m Running time: 6-12s	Actuator base: PC	
WRA-22W02A	On/Off		Power in operation: 2W Power in rest position: 1W 4N.m Running time: 6-12s	Actuator revolving shaft: POM	

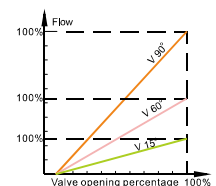
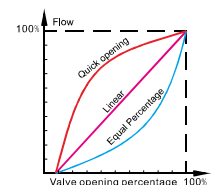
24VAC/DC Actuator Option : Other function

Function	Illustration
-P3, -P8 Aviation socket: M12*1 Threaded connection: 8 Pin, -P8; 3Pin, -P3.	



Matching Valve

			
Valve Type	W8BV. . . Series	W8BV...M Series	WSBV. . . Series
Material	Brass(Hpb59-1)	Brass(Hpb59-1)	304/316/316L
Type	2 way / 3 way	2 way / 3 way	2 way / 3 way
Size	1/2", 3/4", 1"	1/2", 3/4", 1"	1/2", 3/4", 1"
Thread Type	Female BSP/NPT	Male BSP	BSP/NPT
Sealing Material	Stem: FKM+NBR with 3 O-ring Ball: PTFE+FKM with double O-ring		
Media	Cold/hot water, 50% glycol, air, oil, etc		Cold water/hot water, 50% glycol, air, oil, weak acid and alkali, solvent, etc
Temperature	-10~100°C		
Admissible Pressure	2.0MPa		
Flow Characteristics	Equal Percentage/Quick opening	Quick opening flow characteristics	



- If you are not sure which model suits your system/equipment, please kindly contact our sales for professional suggestions.
- *W8BV...series has three types of valve bodies with different flow characteristics: linear flow characteristic, equal percentage flow characteristic and quick opening flow characteristic.

AC Actuator

Model	Control Type	Power Supply	Parameter	Material	Wiring Diagram
WRA-2220APRO	On/Off	90-250VAC	Power: 2W 4N.m Running time: 6-12s Current limiting protection Limit protection	Actuator shell: ABS	
WRA-2220A		230VAC	Power: 5W 4N.m Running time: 43S/50Hz 36S/60Hz	Actuator base: PC	
WRA-2202A		24VAC		Actuator revolving shaft: POM	
WRA-2220	3-point	230VAC	Constant current running AC synchronous motor Limit protection	Actuator revolving shaft: POM	
WRA-2202		24VAC			

DC Actuator

Model	Control Type	Power Supply	Parameter	Material	Wiring Diagram
WRA-2203A	On/Off or 3-point	3VDC	3.0N.m, 2W, Running time: 6-10s	Actuator shell: ABS	
WRA-2212A		12VDC	3.0N.m, 2W, Running time: 6-10s	Actuator base: PC	
WRA-2224A		24VDC	3.0N.m, 2W, Running time: 6-10s	Actuator revolving shaft: POM	

AC and DC Actuator Option : Other function

	-P3, -P5, -P8	-DK
Function	Aviation socket: M12*1 Threaded connection: 8 Pin, 5 Pin, 3Pin	Dry Contacts: Full Open feedback and Full Close feedback.
Illustration		



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Size	1/2", 3/4", 1"	1/2", 3/4", 1"	1/2", 3/4", 1"
Thread Type	Female BSP/NPT	Male BSP	BSP/NPT
Sealing Material	Stem: FKM+NBR with 3 O-ring Ball: PTFE+FKM with double O-ring		
Media	Cold/hot water, 50% glycol, air, oil, etc		Cold water/hot water, 50% glycol, air, oil, weak acid and alkali, solvent, etc
Temperature	-10~100°C		
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Capacitor-Return

Model	Control Type	Power Supply	Parameter	Material	Wiring Diagram
WRA-2220C	On/Off	90-250VAC	Power: 2W 2.5N.m Running time: 6-12s	Actuator shell: ABS Actuator base: PC	
WRA-2224C	On/Off	9-28VAC/DC	Constant-current control Limit protection IP67	Actuator revolving shaft: POM	

AC and DC Actuator Option : Other function

	-P3
Function	Aviation socket: M12*1 Threaded connection: 3Pin
Illustration	



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Size	1/2", 3/4", 1"	1/2", 3/4", 1"	1/2", 3/4", 1"
Thread Type	Female BSP/NPT	Male BSP	BSP/NPT
Sealing Material	Stem: FKM+NBR with 3 O-ring		
	Ball: PTFE+FKM with double O-ring		
Media	Cold/hot water, 50% glycol, air, oil, etc		Cold water/hot water, 50% glycol, air, oil, weak acid and alkali, solvent, etc
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