

# GL-1

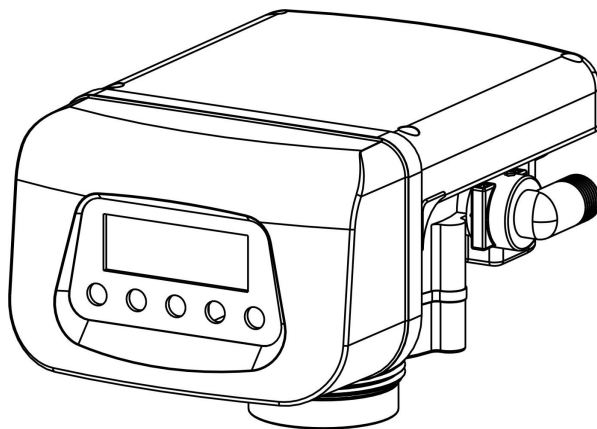
## Series Filter valve

### Installation, use and maintenance manual

(GL2-1、GL4-1、GL10-1、GL10-1S)



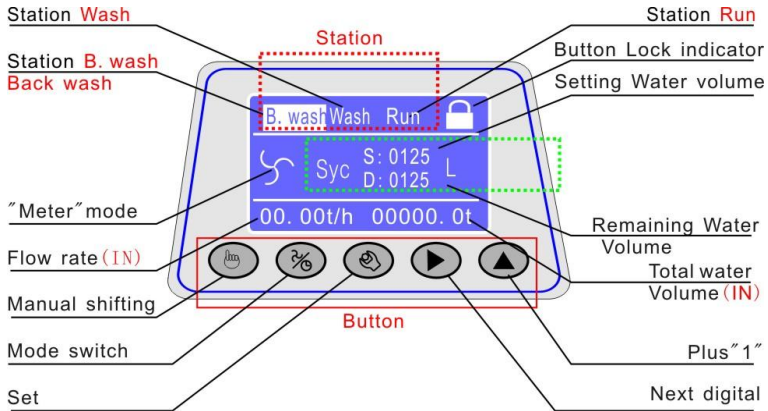
Scan Qr code for the latest



GL-1 shifting animation

## I 、 Operating Board

### 1 Instructions of the LCD display controller



**PIC1:LCD panel**

#### The operation button:

: Manual switch; 
 : Parameter setting; 
 : Mode switch; 
 : Move to the next digit; 
 : Plus 1

**A、Unlock:** Press "" & "" buttons at the same time, The key lock is unlocked, Displaying ""

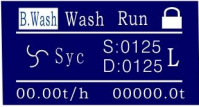
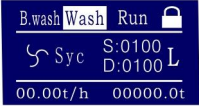
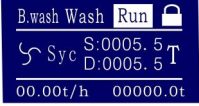
**B、Lock:** Automatic lock after 3 minutes without any operation.

**C、"" Mode switch:** Unlock state, the operation button in time mode "" and meter Mode "" display to switch between.

**D、"": Manual switch:** Unlock state, when pushing the button the valve switch to next station.

**E、"": Parameter setting:** Unlock state, press the button and the screen will show the interface of setting parameters.

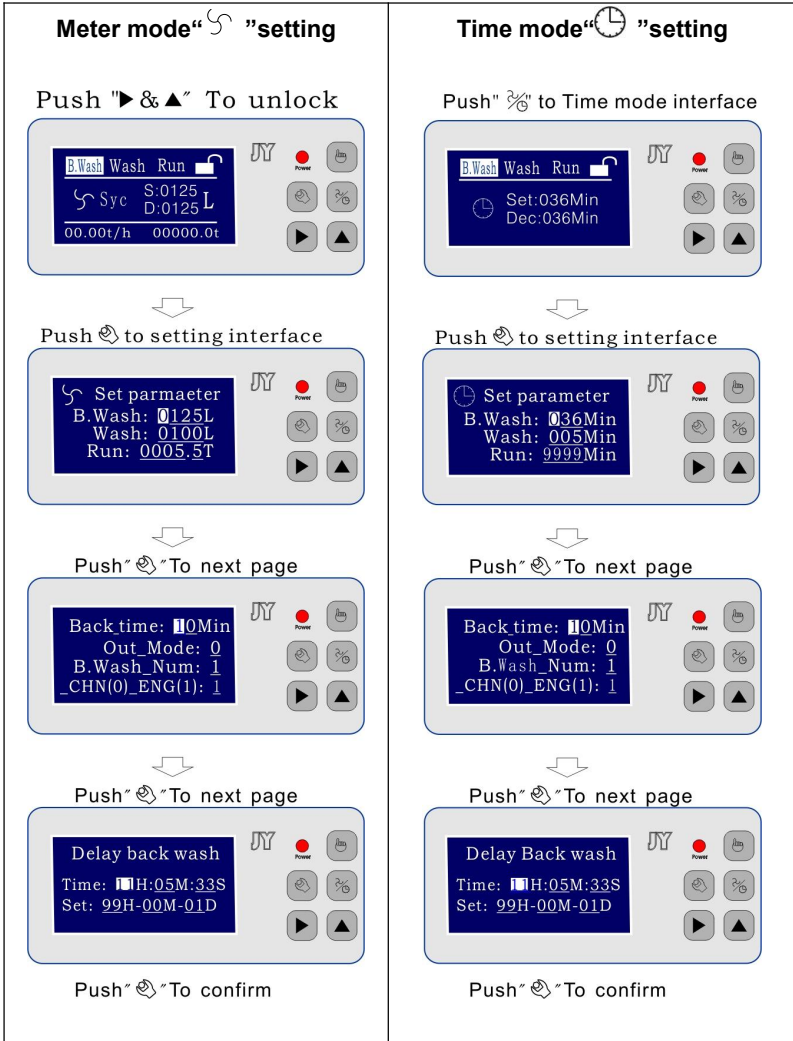
## Meter mode "🌀" interface

 <p>The meter display shows: B.Wash Wash Run (with lock icon), 🌀 Syc S:0125 D:0125 L, 00.00t/h 00000.0t.</p>	<p><b>The current : B.wash (back wash)</b>  <b>S:0125:</b> Set of backwash water.  <b>D:0125:</b>Decrementing state, decrementing to zero and switching to the next station.  <b>00.00t/h:</b>Inlet water flow rate.  <b>00000.0t:</b>Cumulative water through inlet.</p>
 <p>The meter display shows: B.wash Wash Run (with lock icon), 🌀 Syc S:0100 D:0100 L, 00.00t/h 00000.0t.</p>	<p><b>The current: Wash</b>  <b>S:0100:</b> Set of washing water.  <b>D:0100:</b>Decrementing state, decrementing to zero and switching to the next station.</p>
 <p>The meter display shows: B.wash Wash Run (with lock icon), 🌀 Syc S:0005.5 T D:0005.5 T, 00.00t/h 00000.0t.</p>	<p><b>The current : Run (Running)</b>  <b>S:0005.5:</b> Set of periodic water quantity,  <b>D:0005.5:</b>Decrementing state, decrementing to zero and switching to the next station.</p>

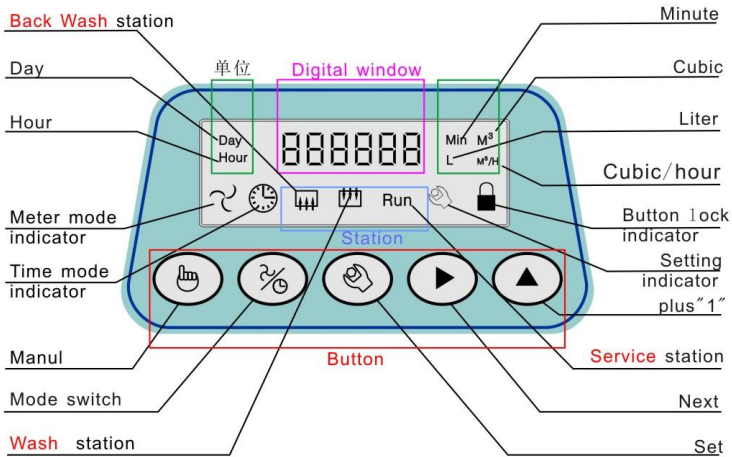
## Time mode "🕒" interface

 <p>The meter display shows: B.Wash Wash Run (with lock icon), 🕒 Set:036Min Dec:036Min.</p> <p>Back wash</p>	 <p>The meter display shows: B.wash Wash Run (with lock icon), 🕒 Set:005Min Dec:005Min.</p> <p>Wash</p>	 <p>The meter display shows: B.wash Wash Run (with lock icon), 🕒 Set:9999Min Dec:9999Min.</p> <p>Run</p>
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## Parameter set










## 2 LED Controller Operation instruction



**PIC2: LED panel**




### LED Display

Day\hour\min\M3\L\M3/H Is the unit of time or flow, respectively, with the content, as suggested by the light

- : Flow mode symbol
- : Time mode symbol
- : Backwash working station indicator
- : Washing station indicator
- : Run working station indicator
- : Enter to setting state symbol
- : Button locking indicator

### Button:

#### Name:

- : Manual switch to next station
- : Parameter setting
- : Mode switch;

► : Move to the next digit;

▲: +1

### Set the parameters defined

**C1: B.wash** station, setting amount of water for backwash. Unit: L,

**C2: Wash** station, setting amount of water for wash. Unit: L,

**C3: Run** station setting amount of water for running. Unit: L,

**C4: Time mode, B.wash** station setting time. Unit: min,

**C5: Time mode, Wash** station setting time. Unit: min,

**C6: Time mode, Run** station setting time. Unit: min,

**C7: Clock** set 0-23 hour,

**C8: Clock** set 0-59 minutes,

**C9: Delay Backwash** (99 0-23). Setting 99 is for cancel the delay,


**CF:** After the delayed backwash is enabled, the system backwash every specified number of days in days. To achieve daily backwash, set the parameter C6 not more than one day (1440 minutes),

**CC:** Relay output control mode, the mode is 0、1、2、3、4、5、6.the detail is in the next page **Relay output interface and mode**,








**CL:** The number of backwash, such as setting 2, after the end of the run, the program performs backwash and wash twice.

### LED Display





#### 1、Working station parameter

	<p>⌚: meter mode symbol</p> <p>⏏: Working station indicator</p> <p><b>C2-060:</b> Represents the set value of washing water volume at 60L. Alternately display 60L and the decrement state, decrement to zero the valve switch to the next station.</p>
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#### 2、Parameter setting (Flow mode example)

	<p>Unlock state</p> <p>Press“”enter to setting interface, Press“”, Modify the flashing digital. Press“”enter to next digital , press“”to confirm the setting to enter to next page C2, To modify the C4 and subsequent parameters, please press “” to enter the time mode“”.</p>
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### 3、Flow rate and accumulated water query ( meter mode )

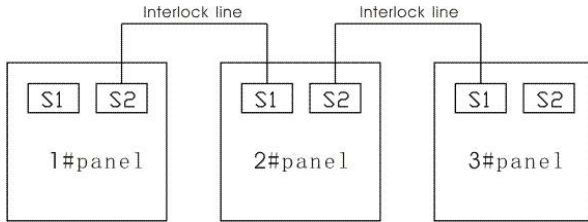
	<p>Lock state</p> <p>Press“”The digital window displays flow rate of inflow water.unit is M³/h</p>
	<p>Lock state</p> <p>Press“”The digital window displays accumulated water inflow, unit is M³</p>

### Setting Delay Backwash ( Parameter C9)

The function, The valve is not shifting to  when the setting number decrease to zero at the RUN station. Stay in station **Run** all the time until the time of day 0-23 clock beforehand setting. To cancel this function, User set the number to “99” only.

## II、Input/output control instructions

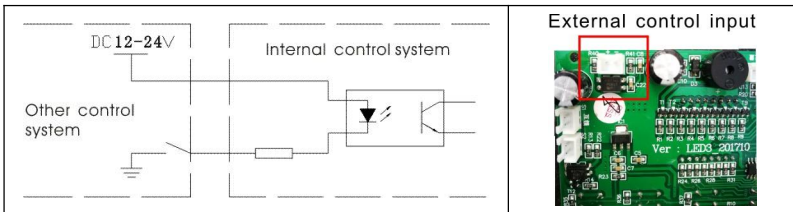
### 1、Interlock line connection as below



Pic3: Interlock

### 2. External control interface

In RUN station, The valve can be controlled into **backwash** through the external other control system.



Pic4: External control input

### 3. Relay output interface and mode (CC)

A、The contact capacity of the relay is 5A/250V.

B. Relay output port:

**NO**= Normal open, **NC**=Normal Close ,**COM** =Common

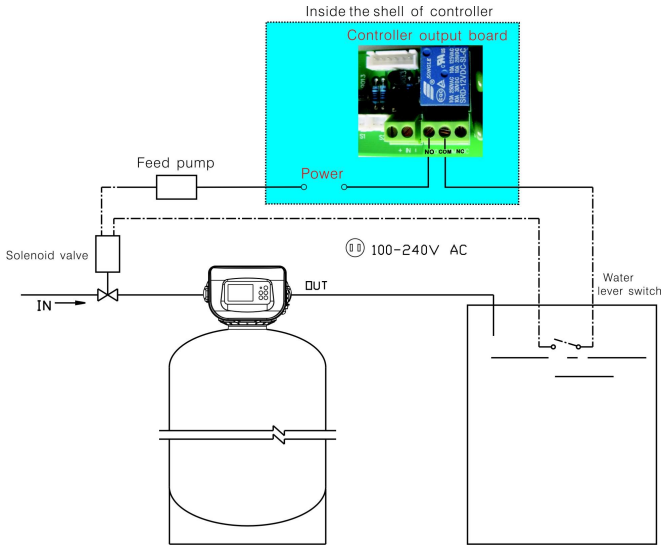
C. When connecting the output of relay, the input end of AC220V power supply shall be connected with leakage circuit breaker.

**4. Different mode, the relay output NO and COM Connected for "C", disconnect for "x"**

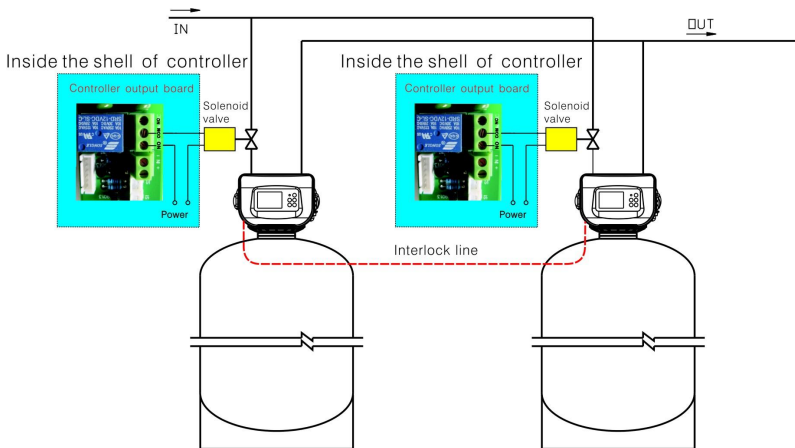


Mode	 B.wash	 wash	RUN	 Valve shifting
0	<b>C</b>	<b>C</b>	<b>C</b>	<b>×</b>
1	<b>C</b>	<b>C</b>	<b>×</b>	<b>×</b>
2	<b>×</b>	<b>×</b>	<b>C</b>	<b>×</b>
3	<b>C</b>	<b>C</b>	<b>×</b>	<b>×</b>
4	<b>C</b>	<b>C</b>	<b>×</b>	<b>×</b>
5	<b>×</b>	<b>×</b>	<b>CX</b>	<b>×</b>
6	<b>C</b>	<b>×</b>	<b>×</b>	<b>×</b>

Mode	Applications
0	<b>Inlet solenoid valve mode:</b> As shown in pic 5.
1	<b>Backwash booster pump mode:</b> This function is used to initiate a booster pump start-up when the control valve begins its <b>Backwash</b> .
2	<b>Subsequent pump startup mode:</b> The high pressure pump can only be started if the valve is in the RUN station. E.g.: For RO high pressure pump start-up.
3	<b>Two valves in parallel. One in service and one standby.</b> This function is used to soften valve.
4	<b>Run simultaneously and backwash separately :</b> Interlock line connection, if one valve into the <b>B.wash, Wash</b> , close another valve inlet solenoid valve, to achieve backwash pressurization .Pic 6.
5	<b>CX(Mode2 additional conditions) :</b> When the inlet flow meter check the water flow signal in RUN station.the Relay is Connected.
6	<b>Backwash booster and compressed air mode</b>

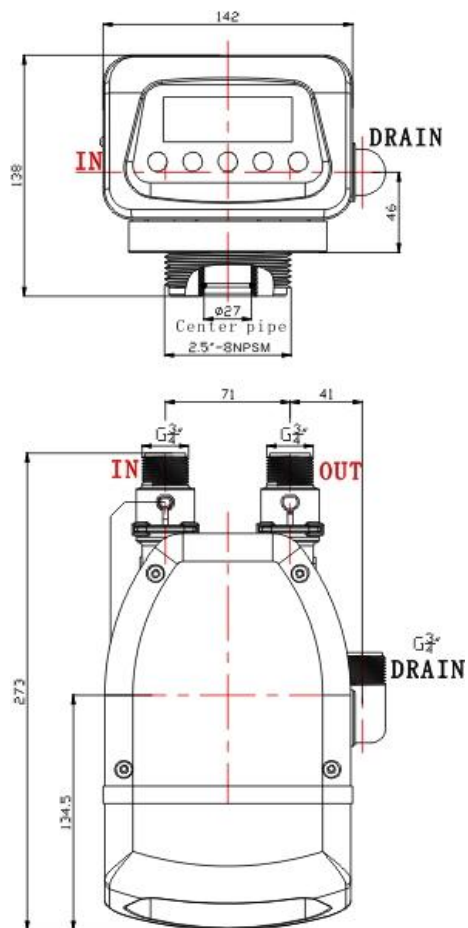


**Pic5: Mode(0): Solenoid valve liquid level switch and feed pump**  
 Water pressure will release when the control valve is shifting and the solenoid valve will cut off.

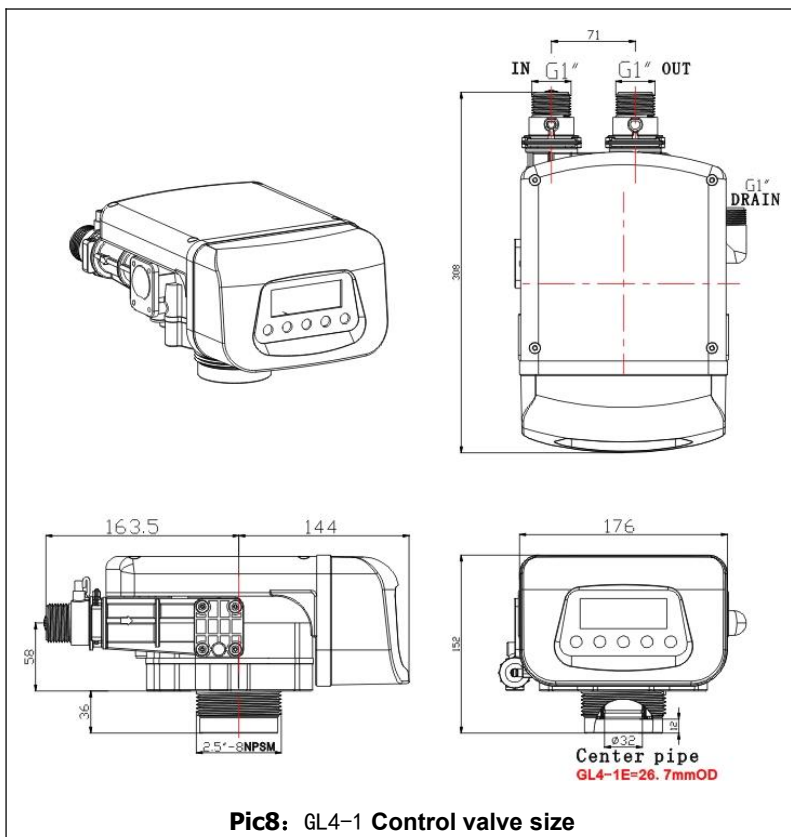


**Pic6: Mode(4): Run simultaneously and backwash separately**

### III、Installation



**Pic7: GL2-1 Control valve size**

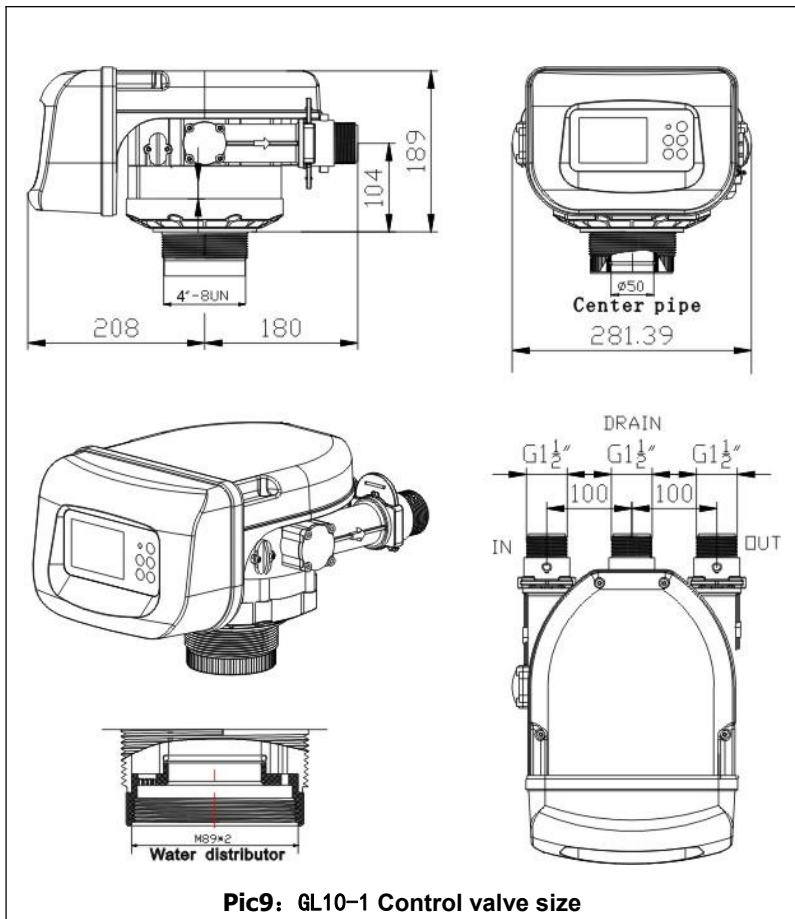


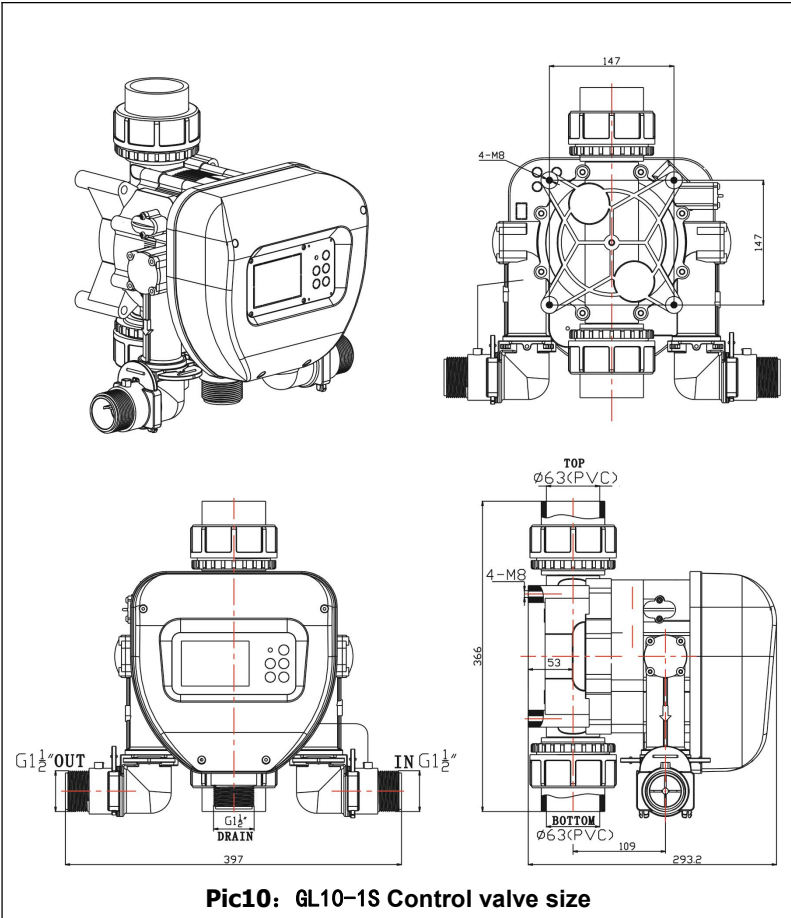
### Note:

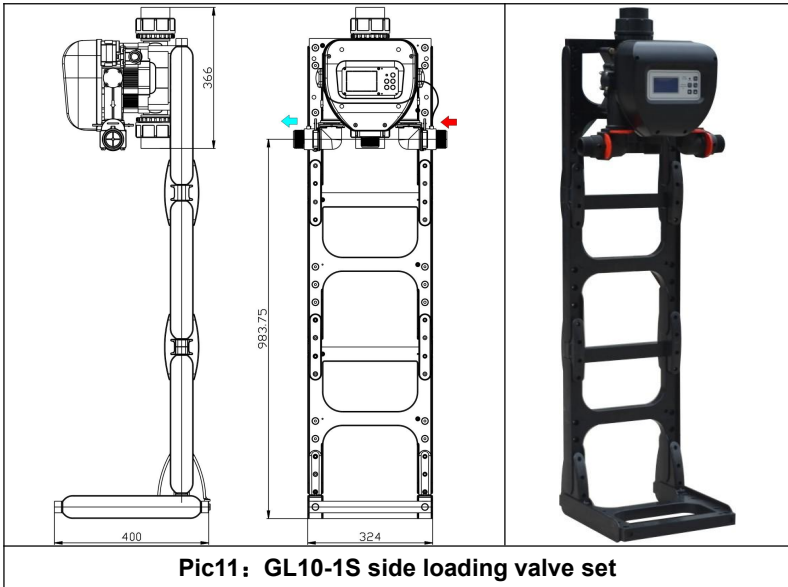
- 1, The water must be installed filters, lest cause valve core fault and water distributor congestion.
- 2, Pipe valve specifications is not less than control valve in and out of the size. Place indoors, the ambient temperature is not lower than 0 °C. Water inlet temperature 0 °C - 60 °C.
- 3, Water static pressure is not higher than 0.6 MPa.
- 4, The equipment is installed in the room, the humidity should not be too

high, there should be no corrosive chemical gas around, to avoid strong electromagnetic interference to affect the power supply of the control valve.

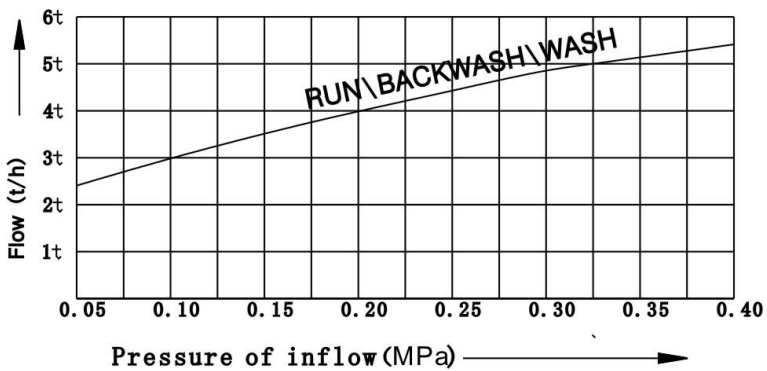
5. Floor drain or trench drainage shall be set around the equipment to avoid accidental water leakage causing the floor and other indoor items to be flooded.



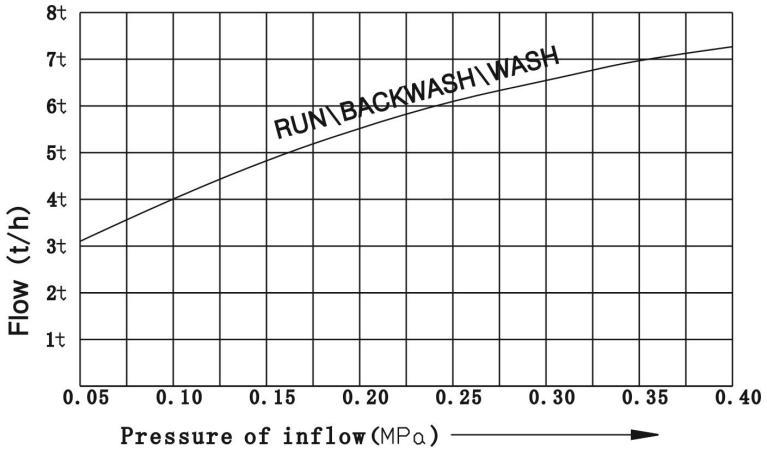




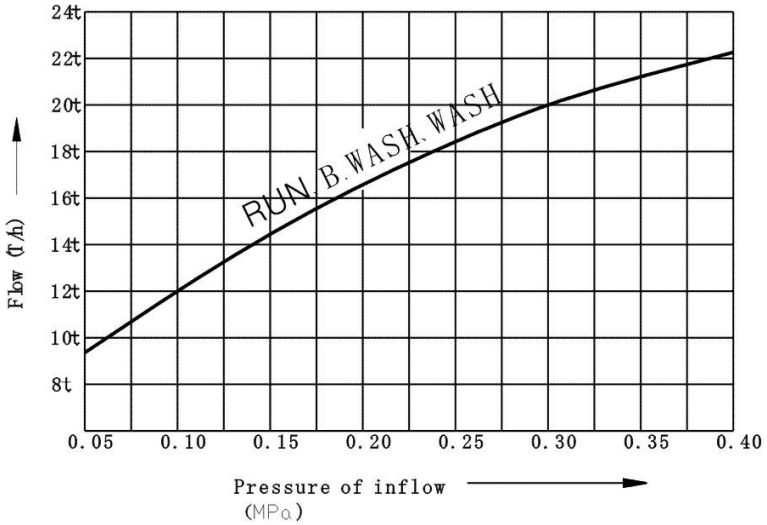
#### IV Curve of Flow and Pressure for the Valve



**Pic12: GL2-1 Curve of Flow and Pressure**



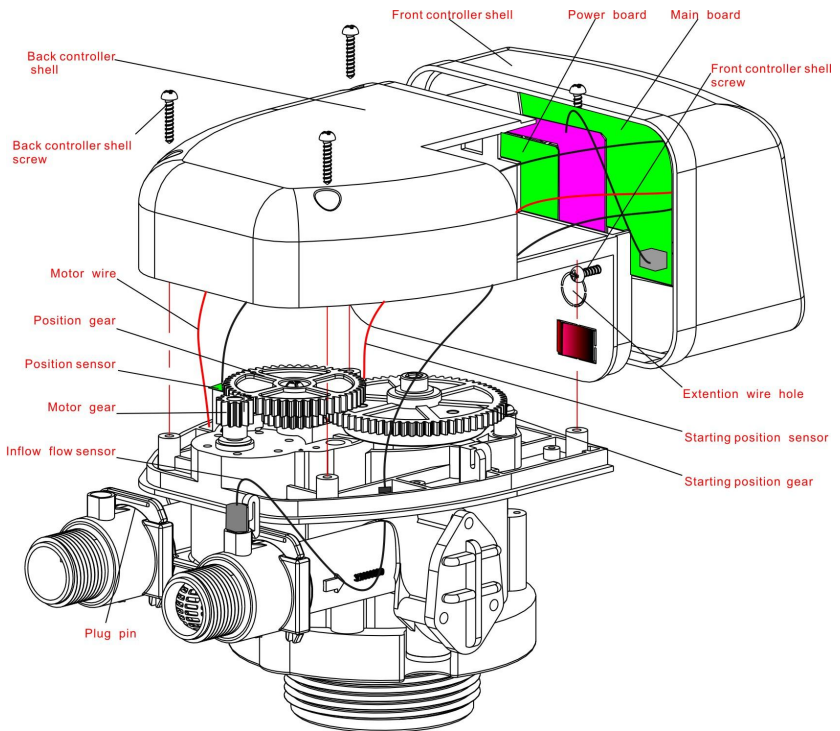
**Pic13:GL4-1 Curve of Flow and Pressure**



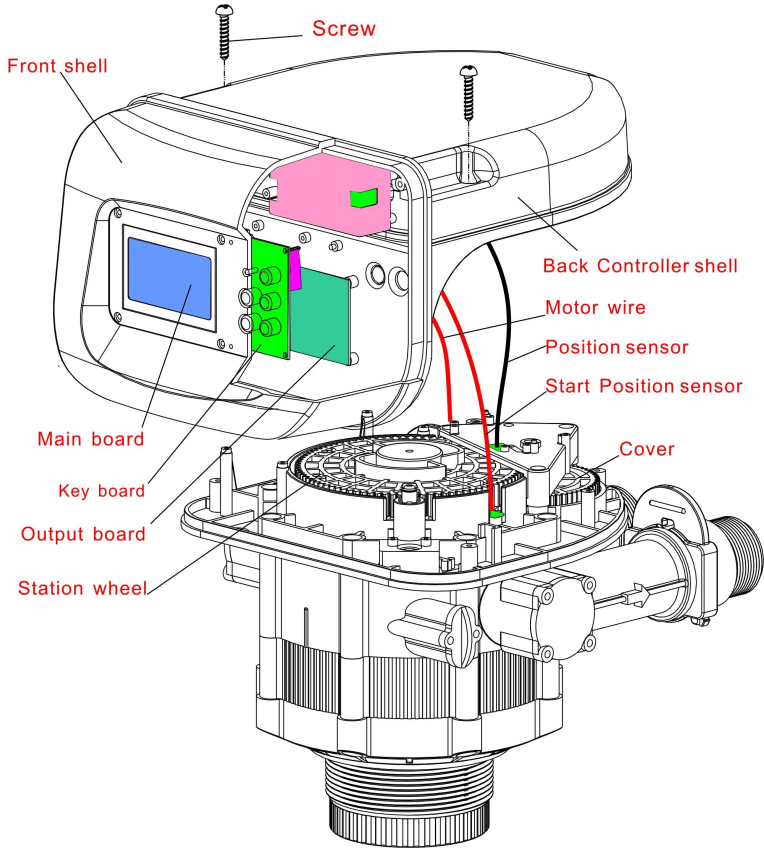
**Pic14: GL10-1 (GL10-1S) Curve of Flow and Pressure**



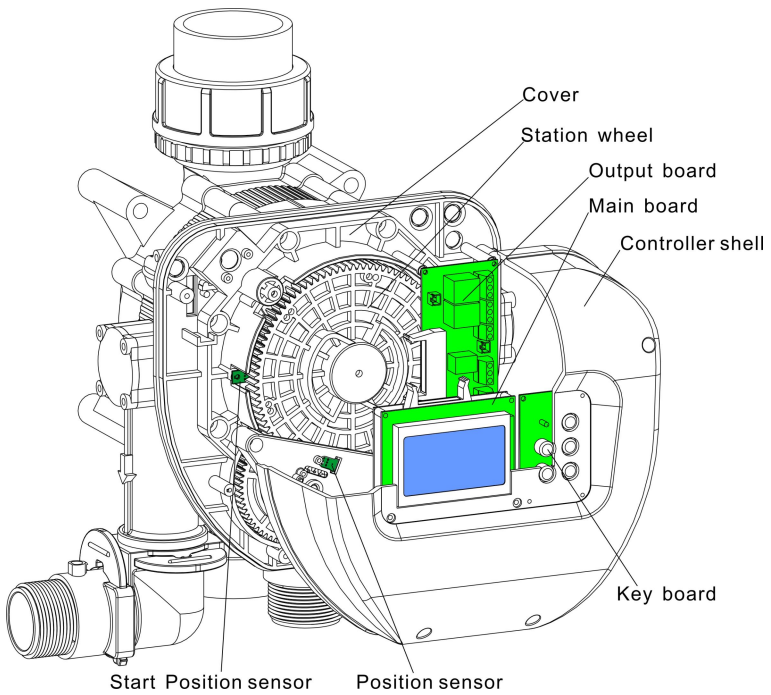
## V Control valve structure



**Pic15: GL2-1\GL4-1 Control valve structure**

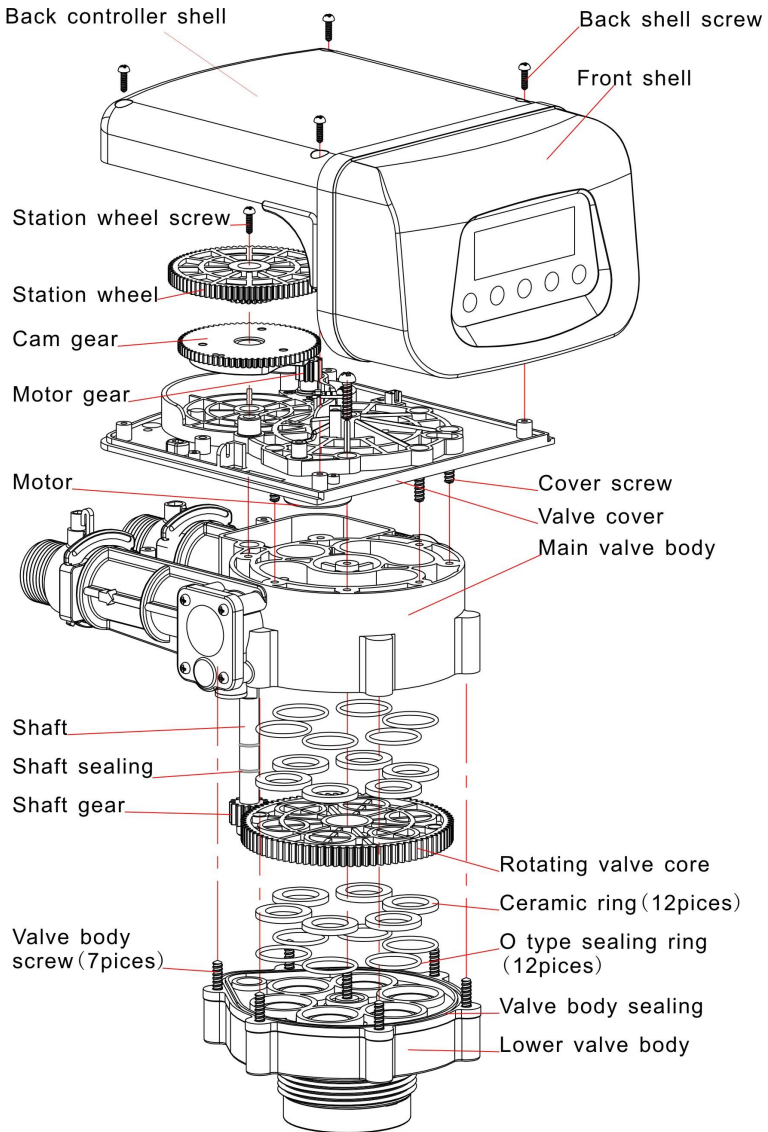


**Pic16: GL10-1 Control valve structure**



**Pic17: GL10-1S Control valve structure**

## **VI 、 Explode drawing (GL4-1 example)**



**Pic18: Explode drawing (GL4-1 example)**