

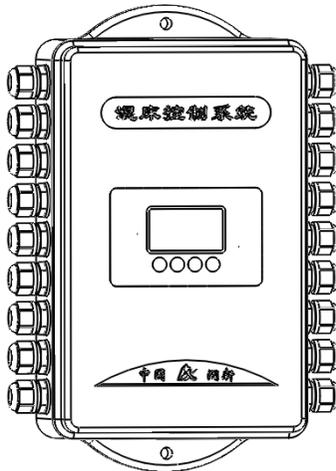


Ball Valve Controller for Filter & Softener and Mixed Bed Water Treatment Systems

46030(Old Model No.: F109)

46040(Old Model No.: F109B)

User Manual



Please read this manual in details before using the valve and keep it properly in order to consult in the future.

Catalogue

1.Product Overview

1.1.Main Application & Applicability

1.2.Product Characteristics

1.3.Product Structure and Technical Parameters

1.4. Flow Chart and Electronic Ball Valve Open and Close Graph

1.5.Installation

2.Application and Illustration

2.1. The Function of PC Board

2.2. 46030(F109) Filter & Softener Controller Setting and Usage

2.3.46040(F109B) Mixed Bed Controller Setting and Usage

3. System Configuration

4.Warranty Card

1. Product Overview

1.1. Main Application & Applicability

Ball valve controller is matched with our two wires electronic ball valve to be filter & softener or mixed bed demineralized water treatment systems.

1.2. Product Characteristics

- Can be used with our electronic ball valve(DN20~DN100).
- Long outage indicator

If outage overrides 3 days, the time of day indicator “12:12” will flash to remind people to reset new time of day. The other set parameters do not need to reset. The process will continue to work after power on.

- Buttons lock

No operations to buttons on the controller within 1 minute, button lock indicator light on which represent buttons are locked. Before operation press and hold the “” and “” buttons for 5 seconds to unlock. This function can avoid incorrect operation.

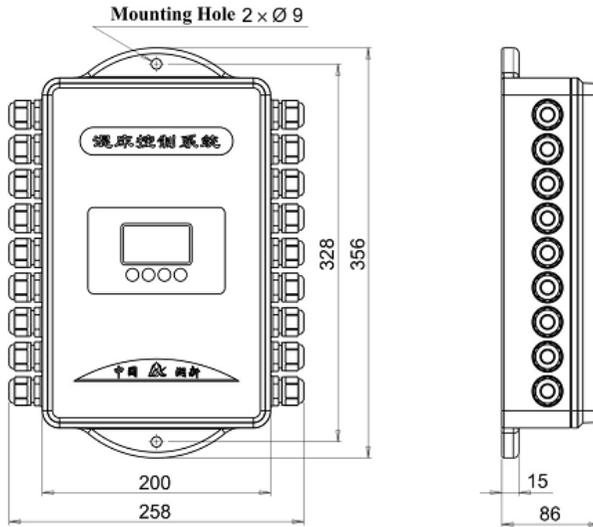
- LCD dynamic screen display

LCD display for clarity.

1.3. Product Structure and Technical Parameters

A. Product Structure (The appearance is just for reference. It is subjected to the real product.)

MODEL 46030/ 46040 (F109/ F109B)



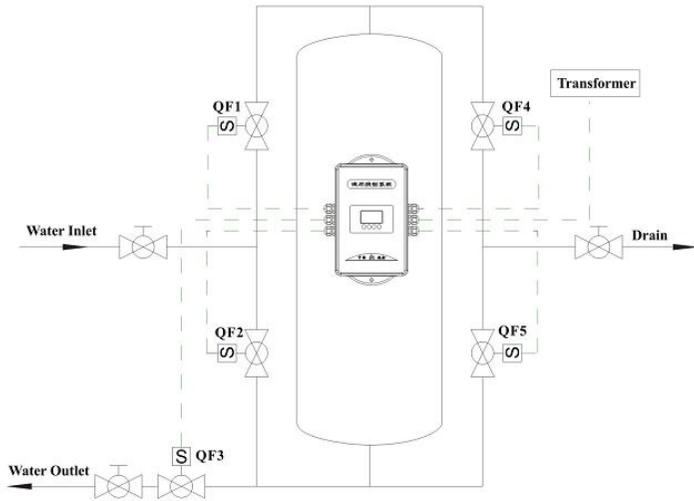
B. Technical Parameters

Model	Transformer Input	Transformer Output	Environment Temperature(°C)	Application
46030(F109)	AC100~240V 50~60Hz	DC36V, 2.0A	5-50°C	Filter & Softener
46040(F109B)		DC24V, 1.5A		Mixed Bed

1.4. Flow Chart and Electronic Ball Valve Open and Close Graph

A. 46030(F109) Filter

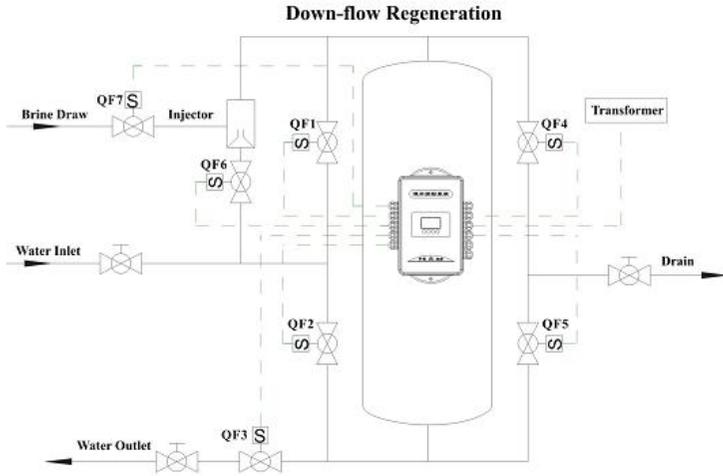
MODEL 46030/ 46040 (F109/ F109B)



Working Position	QF1	QF2	QF3	QF4	QF5
Service	Open		Open		
Backwash		Open		Open	
Fast Rinse	Open				Open

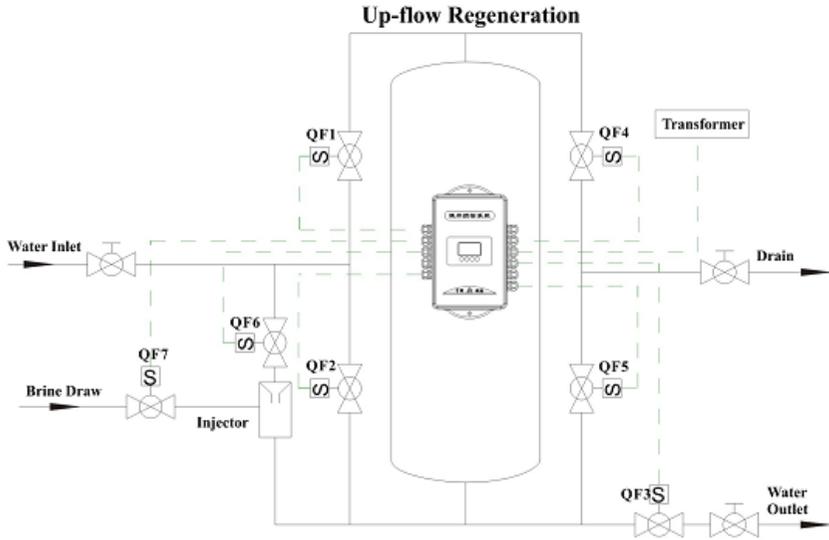
B. 46030(F109) Softener

MODEL 46030/ 46040 (F109/ F109B)



Working Position	QF1	QF2	QF3	QF4	QF5	QF6	QF7
Service	Open		Open				
Backwash		Open		Open			
Brine Draw					Open	Open	Open
Slow Rinse					Open	Open	
Fast Rinse	Open				Open		
Brine Refill	Open		Open				Open

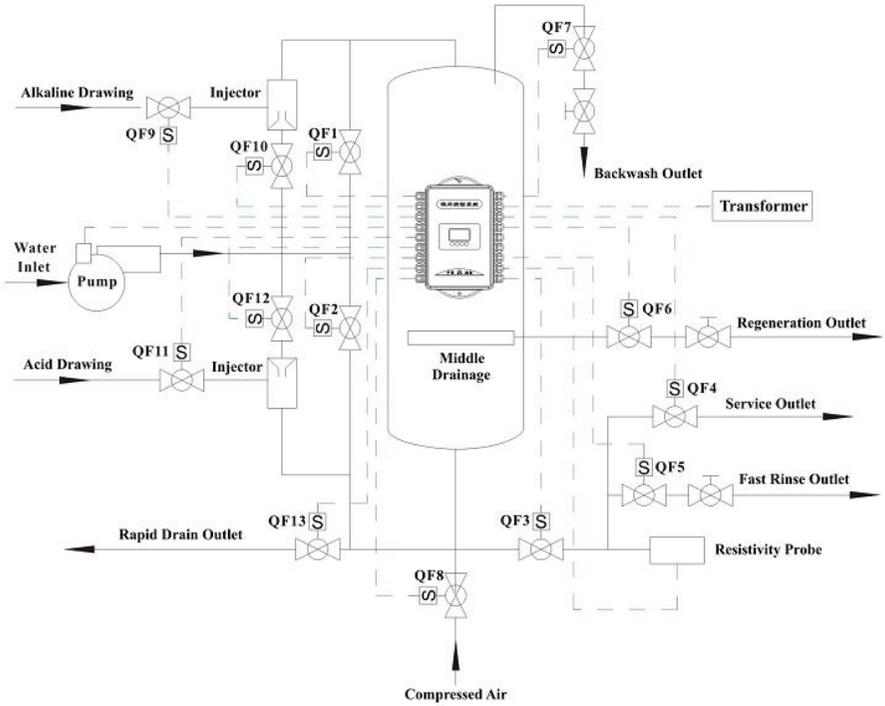
MODEL 46030/ 46040 (F109/ F109B)



Working Position	QF1	QF2	QF3	QF4	QF5	QF6	QF7
Service	Open		Open				
Backwash		Open		Open			
Brine Draw				Open		Open	Open
Slow Rinse				Open		Open	
Fast Rinse	Open				Open		
Brine Refill	Open		Open				Open

MODEL 46030/ 46040 (F109/ F109B)

C. 46040(F109B) Mixed Bed

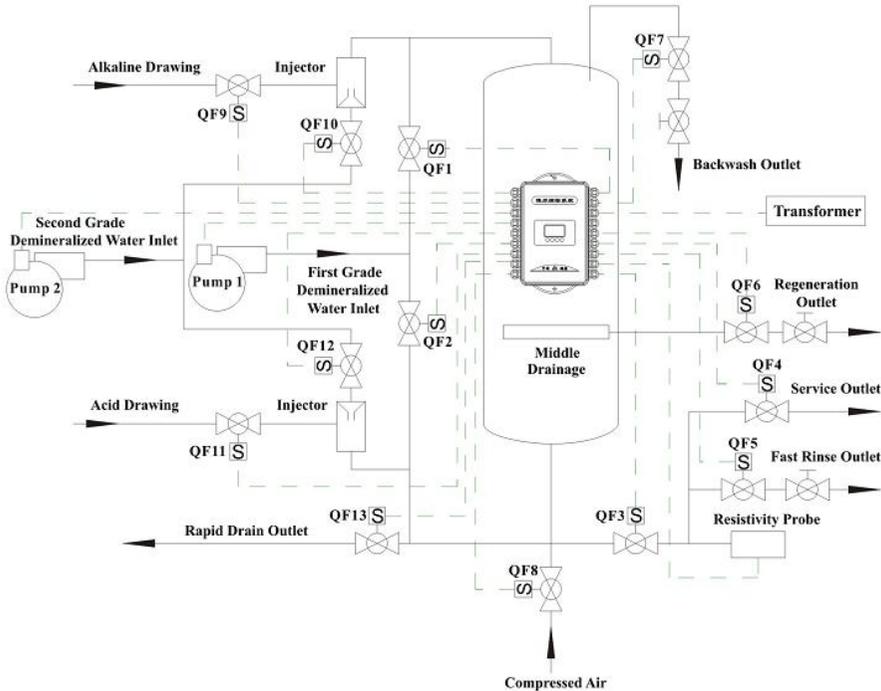


Working Position	QF1	QF 2	QF 3	QF 4	QF 5	QF 6	QF7	QF8	QF9	QF10	QF11	QF12	QF13	Pump
Service	Open		Open	Open										Open
Backwash		Open					Open							Open
Settling						Open	Open							
Alkaline Pre-drawing						Open			Open	Open		Open		Open
Acid-Alkaline Drawing						Open			Open	Open	Open	Open		Open

MODEL 46030/ 46040 (F109/ F109B)

Acid-Alkali Rinse					Open				Open		Open		Open
Drainage					Open	Open							
Mixing				Open	Open	Open							
Rapid Drain			Open	Open		Open						Open	
Air Drain	Open		Open	Open		Open							Open
Fast Rinse	Open		Open	Open									Open

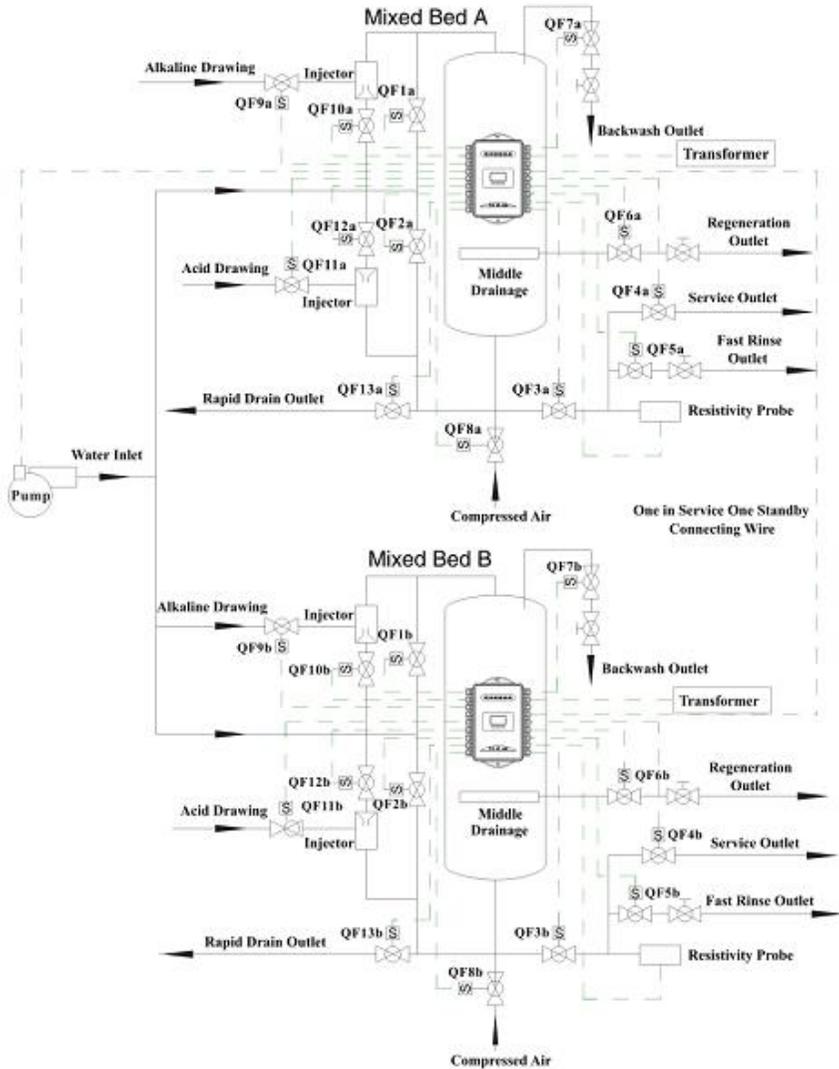
Second Grade Demineralized Water Regeneration Mixed Bed



MODEL 46030/ 46040 (F109/ F109B)

Working Position	QF 1	QF 2	QF3	QF 4	QF 5	QF 6	QF 7	QF 8	QF 9	QF10	QF11	QF12	QF13	Pump 1	Pump 2
Service	Open		Open	Open										Open	
Backwash		Open					Open							Open	
Settling						Open	Open								
Alkaline Pre-drawing						Open			Open	Open		Open			Open
Acid-Alkaline Drawing						Open			Open	Open	Open	Open			Open
Acid-Alkaline Rinse						Open				Open		Open			Open
Drainage						Open	Open								
Mixing					Open		Open	Open							
Rapid Drain				Open	Open		Open						Open		
Air Drain	Open		Open		Open		Open								Open
Fast Rinse	Open		Open		Open										Open

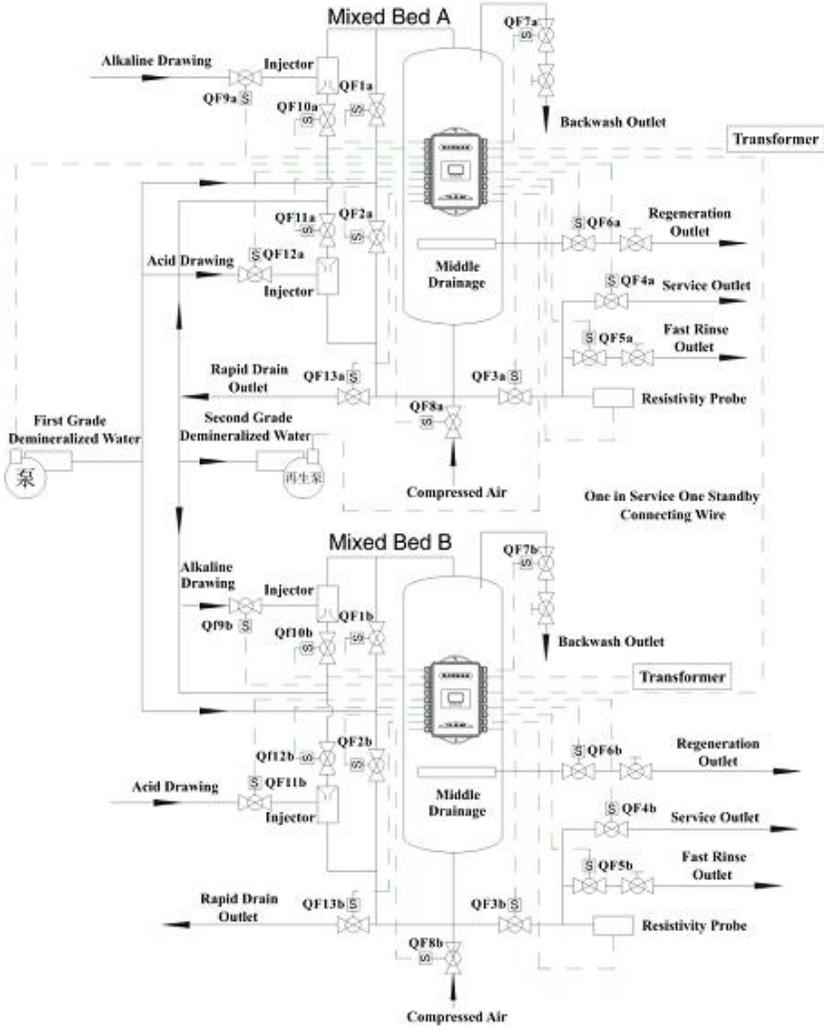
**One in Service One Standby
First Grade Demineralized Water Regeneration Mixed Bed**



When the mixed bed A is in service status, mixed bed B is in regeneration until fast rinse finished. Close QF5b, it is in standby status. When mixed bed A outlet water is unqualified, mixed bed B is in fast rinse until the drain water qualified then into service, mixed bed A starts

to regenerate until fast rinse finished, close QF5a, it is in standby status. So the system continuous water supplying.

**One in Service One Standby
Second Grade Demineralized Water Regeneration Mixed Bed**



The regeneration pump is opened only at Alkaline Pre-drawing, Acid-Alkaline Drawing and Acid-Alkaline Rinse three positions.

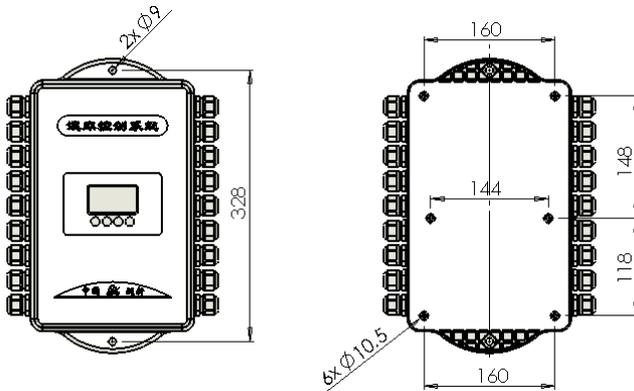
1.5. Installation

A. The valve pipeline installation

Please refer to above correspondence flow chart to install the pipeline and the valve. The above flow chart makes the instruction of electronic ball valve and limit outlet water, for the other pipeline and flow meter design according to the necessary.

B. Controller fixing

Please install and fix the controller by mounting hole $2 \times \Phi 9$ according to the below figure, prevent to hide 6 pieces holes of 6×10.5 on back, keeps a space for screwdriver disassembly the control box and wiring.

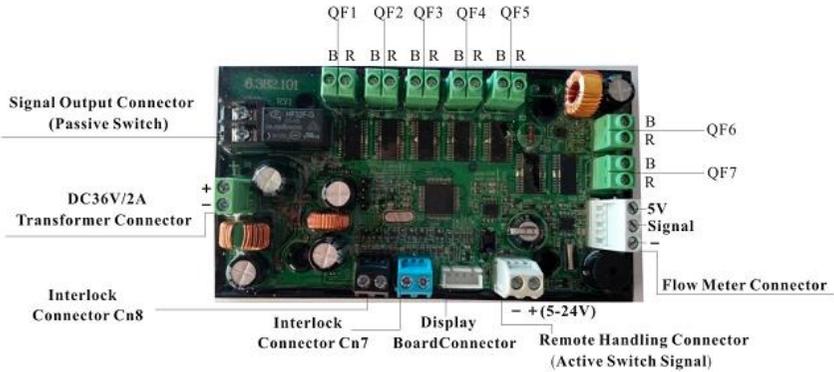


The controller for mixed bed system

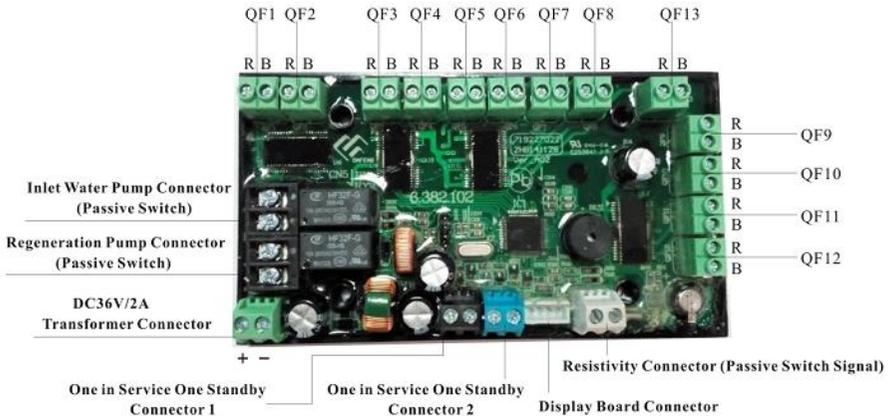
C. Wiring

The function and wiring of 46030(F109) filter &softener control board.

MODEL 46030/ 46040 (F109/ F109B)

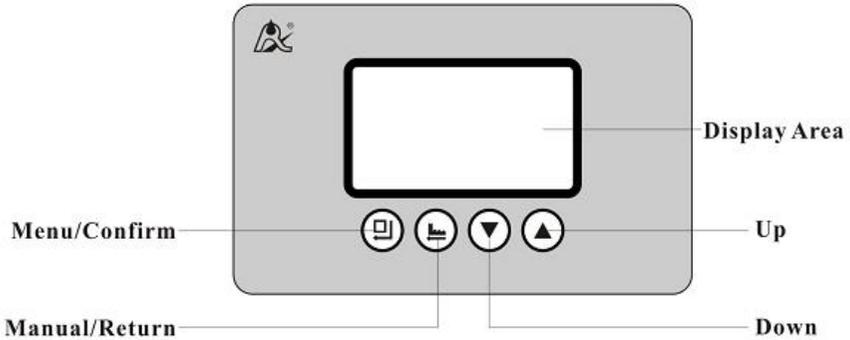


The function and wiring of 46040(F109B) mix bed system control board.



2. Basic Setting & Usage

2.1. The Function of PC Board



A. 

-  Light on, indicate the buttons are locked. At this moment, no single button will work (Operation in one minute,  will light on and lock the buttons.)
- Solution: Press and hold both  and  for 5 seconds until the  light off.

B. 

- Press , enter program display mode and view all values.
- In program display mode, press , enter program set mode, and adjust values.
- Press  after all program are set, and then the voice “Di” means all setting are success and return program display mode.

C. 

- Press  in any status, it can proceed to next step.(Example: If outlet water is unqualified, lift up the buttons, then press  to start regeneration.)
- Press  in program display mode, and it will return to Service; Press  in program set mode, and it will return program display mode.

- Press  while adjusting the value, then it will return program display mode directly without saving value.

D. ▼ and ▲

- In program display mode, press  or  to view all values.
- In program set mode, press  or  to adjust values.
- Press and hold both  and  for 5 seconds to lift the Button Lock status.

2.2. 46030(F109) Filter & Softener Controller Setting and Usage

A. The background setting

When power on, display as Figure 1, within 6 seconds press and hold  and  for more than 2 seconds to enter the background setting menu, display as Figure 2.



Figure 1

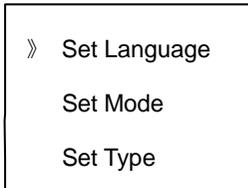


Figure2

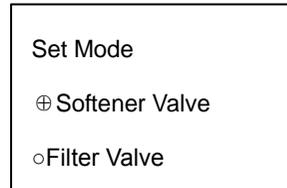


Figure 3

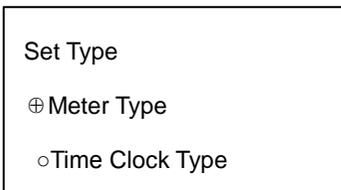


Figure4

- a) In Figure 2 interface, press  enter “Set Mode” as Figure 3 shows, press  or  to select the mode that you need (if set mode is softener valve, Figure 1 displays softener valve, if set mode is filter valve,

Figure 1 displays filter valve), press  to save the setting and turn back to Figure 2.

b)In Figure 2 interface, press  or  to select “Set Type”, and press , enter “Set Type” as the Figure 4 shows, press  or  to select the type that you need, press  to save the setting and turn back to Figure 2.

B. Factory default parameters:

Set Items	Parameter Set Range	Factory Default	Remark
Time of Day	00~23:59	Current Value	
Regeneration Type	A-01/02	A-01	A-01Meter type A-02Time clock type
Regeneration Time	00~23:59	02: 00	Only for meter type A-01
Water Treatment Capacity	0~9999.99 m ³	500.00	Only for meter type
Service Days	0~99 Days	3	Only for time clock type
Rinsing Frequence	F-00~20	F-00	Only for filter valve
Backwash Time	0~99 min.	10	
Brine Draw Time	0~99 min.	60	Only for softener valve

MODEL 46030/ 46040 (F109/ F109B)

Slow Rinse Time	0~99 min.	30	Only for softener valve
Brine Refill Time	0~99:59 min.:sec.	5	Only for softener valve
Fast Rinse Time	0~99 min.	10	
Maximum Interval Regeneration Days	0~40 Days	30	Only for meter type
Signal Output Mode	b-01/02	b-01	

C. Process display(Take softener valve meter type A-01 as an example)

12:30:45
 Water System
 In-Service
 Remaining:1.50 m³
 Cur. F. R.: 60.00m³/h

Figure 5

12:30:45
 Water System
 In-Service
 Remaining:1.50 m³
 Regen. Time: 02:00

Figure 6

16:54:32
 Water System
 Backwashing...
 Remaining: 10 min.

Figure 7

16:58:32
 Water System
 Brine Drawing...
 Down-flow
 Remaining: 60 min.

Figure 8

17:30:32
 Water System
 Slow Rinsing...
 Remaining: 30 min.

Figure 9

17:59:32
 Water System
 Fast Rinsing...
 Remaining: 10 min.

Figure 10

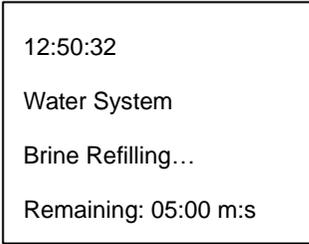


Figure 11

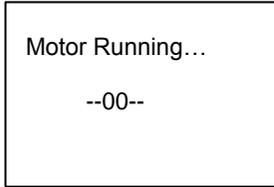


Figure12

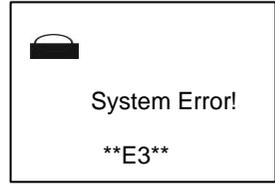


Figure13

Illustration:

- Under service status, it shows Figure 5 and Figure 6;
- Under backwash status, it shows Figure 7;
- Under brine draw status, it shows Figure 8;
- Under slow rinse status, it shows Figure 9;
- Under fast rinse status, it shows Figure 10;
- Under brine refill status, it shows Figure 11;
- When the motor is running, it shows Figure 12;
- When the system is faulted, it shows Figure 13, The “X” in the “EX” refers to 1~4 .

D. Operation parameters setting process (Take softener valve meter type A-01 as an example)

Items	Process Steps	Symbol
Before parameters setting, if  light on, press and hold both  and  for 5 second to unlock.		

<p>Time of Day</p>	<p>1.Press  and enter into menu, as the Figure 14 shows. The item of the “Set Time of Day”.</p> <p>2.Then press , and the setting interface will display as the Figure 15, the hour value “12” flash, press  or  to adjust the hour value.</p> <p>3.Then press  again, the minute value “30” flash, press  or  to adjust the minute value.</p> <p>4.Press  and hear a sound “Di”, then finish adjustment.</p>	<div data-bbox="784 140 1056 339" style="border: 1px solid black; padding: 5px;"> <p>» Set Time of Day Set Brine D. Type Set Regen. Type ↓</p> </div> <p style="text-align: center;">Figure14</p> <div data-bbox="784 411 1030 568" style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <p style="text-align: center;">Set Time of Day 10:30</p> </div> <p style="text-align: center;">Figure 15</p>
<p>Brine Draw Type</p>	<p>1.In Figure 14, press  and select the item of “Set Brine D. Type”; Then press , the setting interface will show as the Figure 16.</p> <p>2.Press  or  select the brine draw type.</p> <p>3.Press  and hear a sound “Di”, then finish adjustment.</p>	<div data-bbox="779 762 1037 951" style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;">Set Brine D. Type</p> <p style="text-align: center;">⊕ Down-flow ○ Up-flow</p> </div> <p style="text-align: center;">Figure 16</p>
<p>Regeneration Type</p>	<p>1.In Figure 14, press  and select the item of “Set Regen. Type”; Then press , the setting interface will show as Figure 17.</p> <p>2.Press  or  select the regeneration type.</p> <p>3.Press  and hear a sound “Di”, then finish adjustment.</p>	<div data-bbox="784 1082 1030 1305" style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;">Set Regen. Type</p> <p style="text-align: center;">⊕ A-01 ○ A-02</p> </div> <p style="text-align: center;">Figure17</p>

MODEL 46030/ 46040 (F109/ F109B)

<p>Regeneration Time</p>	<p>1.In Figure 14, press  and select the item of “Set Regen. Time”; Then press , the setting interface will show as Figure 18, the hour value “02” flash, press  or  to adjust the hour value.</p> <p>2.Then press , the minute value “00” flash, press  or  to adjust the minute value.</p> <p>3. Press  and hear a sound “Di”, then finish adjustment.</p>	<div data-bbox="784 159 1036 343" style="border: 1px solid black; padding: 10px; text-align: center;"> <p>Set Regen. Time</p> <p>02 :00</p> </div> <p style="text-align: center;">Figure 18</p>
<p>Water Treatment Capacity</p>	<p>1.In Figure 14, press  and select the item of “ Set Water Capacity ”; Then press , the setting interface will show as Figure 19, the value “500” flash, press  or  to adjust the value.</p> <p>2. Then press , the value “00” flash, press  or  to adjust the value.</p> <p>3. Press  and hear a sound “Di”, then finish adjustment.</p>	<div data-bbox="789 646 1047 829" style="border: 1px solid black; padding: 10px; text-align: center;"> <p>Set Water Capacity</p> <p>500.00m³</p> </div> <p style="text-align: center;">Figure 19</p>
<p>Backwash Time</p>	<p>1.In Figure 14, press  and select the item of “Set Backwash Time”;Then press , the setting interface will show as Figure 20.</p> <p>2.Press  or  to set the backwash time.</p> <p>3.Press  and hear a sound “Di”, then finish adjustment.</p>	<div data-bbox="789 1093 1047 1284" style="border: 1px solid black; padding: 10px; text-align: center;"> <p>Set Backwash Time</p> <p>10 min.</p> </div> <p style="text-align: center;">Figure 20</p>

MODEL 46030/ 46040 (F109/ F109B)

<p>Brine Draw Time</p>	<p>1.In Figure14, press  and select the item of “ Set Brine D. Time ”; Then press , the setting interface will show as Figure 21.</p> <p>2.Press  or  to set the brine draw time.</p> <p>3. Press  and hear a sound “Di”, then finish adjustment.</p>	<div data-bbox="792 164 1028 331" style="border: 1px solid black; padding: 10px; text-align: center;"> <p>Set Brine D. Time 60 min.</p> </div> <p style="text-align: center;">Figure 21</p>
<p>Slow Rinse Time</p>	<p>1.In Figure 14, press  and select the item of “Set Slow Rinse Time”; Then press , the setting interface will show as Figure 22.</p> <p>2. Press  or  to set the slow rinse time.</p> <p>3.Press  and hear a sound “Di”, then finish adjustment.</p>	<div data-bbox="798 545 1033 713" style="border: 1px solid black; padding: 10px; text-align: center;"> <p>Set Slow Rinse Time 30 min.</p> </div> <p style="text-align: center;">Figure 22</p>
<p>Fast Rinse Time</p>	<p>1.In Figure 14, press  and select the item of “Set Fast R. Time”; Then press , the setting interface will show as Figure 23.</p> <p>2. Press  or  to set the fast rinse time.</p> <p>3. Press  and hear a sound “Di”, then finish adjustment.</p>	<div data-bbox="809 920 1022 1088" style="border: 1px solid black; padding: 10px; text-align: center;"> <p>Set Fast R. Time 10 min.</p> </div> <p style="text-align: center;">Figure 23</p>

MODEL 46030/ 46040 (F109/ F109B)

<p>Brine Refill Time</p>	<p>1. In Figure 14, press  and select the item of "Set Brine R. Time"; Then press , the setting interface will show as Figure 24.</p> <p>2. Press  or  to set the brine refill time.</p> <p>3. Press  and hear a sound "Di", then finish adjustment.</p>	<div data-bbox="781 132 994 323" style="border: 1px solid black; padding: 5px;"> <p>Set Brine R. Time 05:00 min.:sec.</p> </div> <p style="text-align: center;">Figure 24</p>
<p>Interval Regeneration Days</p>	<p>1. In Figure 14, press  and select the item of "Interval Regen. D."; Then press , the setting interface will show as Figure 25.</p> <p>2. Press  or  to set the Interval regeneration days.</p> <p>3. Press  and hear a sound "Di", then finish adjustment.</p>	<div data-bbox="781 587 1016 730" style="border: 1px solid black; padding: 5px;"> <p>Interval Regen. D. 30 days</p> </div> <p style="text-align: center;">Figure 25</p>
<p>Signal Output Mode</p>	<p>1. In Figure 14, press  and select the item of "Set Signal Output"; Then press , the setting interface will show as Figure 26.</p> <p>2. Press  or  to set the signal output mode.</p> <p>3. Press  and hear a sound "Di", then finish adjustment.</p>	<div data-bbox="781 976 1016 1160" style="border: 1px solid black; padding: 5px;"> <p>Set Signal Output ⊕ b-01</p> </div> <p style="text-align: center;">Figure 26</p>

E. F and K value setting method.

When power on, within 6 seconds press and hold  and  for more than 2 seconds to enter the K setting status.

The K integer value flash, press  or  each one time, decrease or increase by 1. Long press  or  to quickly decrease or increase the value. Press , the K decimals value flash, then press  or  each one time, decrease or increase by 1. Long press  or  to quickly decrease or increase the value. Press  to save the setting values and return to work status.

2.3.46040(F109B) Mixed Bed Controller Setting and Usage

A. The background setting

When power on, display as Figure 27, within 6 seconds press and hold  and  for more than 2 seconds to enter the background setting menu, display as Figure 28. Press  or  to set the required program, press  to save the setting and return to work status.



Figure 27

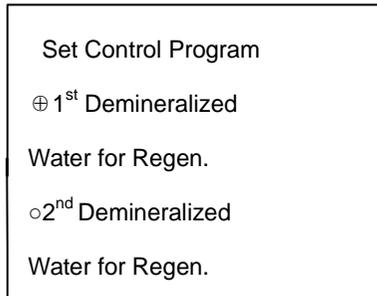


Figure 28

B. Factory default parameters

Set Items	Parameter Set Range	Factory Default	Remark
Time of Day	00:00~23:59	Current Value	
Service Days	0~99 Days	60	

MODEL 46030/ 46040 (F109/ F109B)

Regeneration Time	00:00~23:59	02:00	
Backwash Time	01:00~99:59 min.:sec.	05:00	
Settling Time	00:00~99:59 min.:sec.	03:00	
Alkaline Pre-drawing Time	00:00~99:59 min.:sec.	35:00	
Acid-Alkaline Drawing Time	00:00~99:59 min.:sec.	65:00	
Acid-Alkaline Rinse Time	00:00~99:59 min.:sec.	35:00	
Drainage Time	00:00~99:59 min.:sec.	00:07	
Mixing Time	00:00~99: 59 min.:sec.	00:40	
Rapid Drain Time	00:00~99:59 min.:sec.	00:10	
Air Drain Time	00:00~99:59 min.:sec.	05:00	
Fast Rinse Time	01:00~99:59 min.:sec.	10:00	

C. Process display(Take single tank mixed bed as an example)

MODEL 46030/ 46040 (F109/ F109B)

12:30:45
Water System
In-Service
Remaining:60 days
Regen. Time: 02:00

Figure 29

12:54:32
Water System
Backwashing...
Remaining: 05:00
min.:sec.

Figure 30

12:59:32
Water System
Settling...
Remaining: 03:00
min.:sec.

Figure 31

13:02:32
Water System
Alkaline Pre-drawing...
Remaining: 35:00
min.:sec.

Figure 32

13:37:32
Water System
Acid-Alkaline Drawing...
Remaining: 65:00
min.:sec.

Figure 33

14:42:32
Water System
Acid-Alkaline Rinsing...
Remaining: 30:00
min.:sec.

Figure 34

15:12:32
Water System
Draining...
Remaining: 00:07
min.:sec.

Figure 35

15:12:52
Water System
Mixing...
Remaining: 00:040
min.:sec.

Figure 36

15:12:58
Water System
Rapid Draining...
Remaining: 00:10
min.:sec.

Figure 37

15:18:32
Water System
Air Draining...
Remaining: 05:00
min.:sec.

15:23:32
Water System
Fast Rinsing...
Remaining: 10:00
min.:sec.

Motor Running...
--00--

Figure 38

Figure 39

Figure 40

Illustration:

- Under service status, it shows Figure 29;
- Under backwash status, it shows Figure 30;
- Under settling status, it shows Figure 31;
- Under alkaline pre-drawing status, it shows Figure 32;
- Under acid-alkaline drawing status, it shows Figure 33;
- Under acid-alkaline rinse, it shows Figure 34;
- Under drainage status, it shows Figure 35;
- Under mixing status, it shows Figure 36;
- Under rapid drain status ,it shows Figure 37;
- Under air drain status ,it shows Figure 38;
- Under fast rinse status, it shows Figure 39;
- Under motor running status ,it shows Figure 40.

D. Operation parameters setting process

Items	Process Steps	Symbol
Before parameters setting, if  light on, press and hold both  and  for 5 second to unlock.		
Time of Day	<ol style="list-style-type: none"> 1. Press  and enter into menu, as the Figure 41 shows. The item for the “Set Time of Day”. 2. Then press , and the setting interface will display as the Figure 42, the hour value “12” flash, press  or  to adjust the hour value. 3. Then press  again, the minute value “30” flash, press  or  to adjust the minute value. 	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> » Set Time of Day Set Service Days Set Regen. Time↓ </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px; text-align: center;"> Figure 41 </div> <div style="border: 1px solid black; padding: 5px; text-align: center;"> Set Time of Day 10 :30 </div>

MODEL 46030/ 46040 (F109/ F109B)

	<p>4. Press  and hear a sound “Di”, then finish adjustment.</p>	<p>Figure 42</p>
<p>Service Days</p>	<p>1. In Figure 41, press  and select the item of “Set Service Days”; Then press , the setting interface will show as Figure 43.</p> <p>2. Press  or  to set the service days.</p> <p>3. Press  and hear a sound “Di”, then finish adjustment.</p>	<div data-bbox="785 288 1009 464" style="border: 1px solid black; padding: 5px; text-align: center;"> <p>Set Service Days</p> <p>60 days</p> </div> <p>Figure 43</p>
<p>Regeneration Time</p>	<p>1. In Figure 41, press  and select the item of “Set Regen. Time”; Then press , the setting interface will show as Figure 44, the hour value “02” flash, press  or  to adjust the hour value.</p> <p>2. Then press , the minute value “00” flash, press  or  to adjust the minute value.</p> <p>3. Press  and hear a sound “Di”, then finish adjustment.</p>	<div data-bbox="785 571 997 802" style="border: 1px solid black; padding: 5px;"> <p>Set Regen.</p> <p>Time</p> <p>02 :00</p> </div> <p>Figure 44</p>
<p>Backwash Time</p>	<p>1. In Figure 41, press  and select the item of “Set Backwash Time”; Then press , the setting interface will show as Figure 45, the minute value “05” flash, press  or  to adjust the minute value.</p> <p>2. Then press , the second value “00” flash, press  or  to adjust the second value.</p> <p>3. Press  and hear a sound “Di”, then finish adjustment.</p>	<div data-bbox="785 1042 1009 1241" style="border: 1px solid black; padding: 5px;"> <p>Set Backwash</p> <p>Time</p> <p>05:00 min.:sec.</p> </div> <p>Figure 45</p>

MODEL 46030/ 46040 (F109/ F109B)

<p>Settling Time</p>	<p>1. In Figure 41, press  and select the item of “Set Settling Time”; Then press , the setting interface will show as Figure 46, the minute value “03” flash, press  or  to adjust the minute value.</p> <p>2.Then press , the second value “00” flash, press  or  to adjust the second value.</p> <p>3.Press  and hear a sound “Di”, then finish adjustment.</p>	<div data-bbox="785 181 1009 384" style="border: 1px solid black; padding: 5px;"> <p>Set Settling Time</p> <p>03:00 min.:sec.</p> </div> <p data-bbox="841 405 941 432">Figure 46</p>
<p>Alkaline Pre-drawing Time</p>	<p>1. In Figure 41, press  and select the item of “Set Alkaline Draw T.”; Then press , the setting interface will show as Figure 47, the minute value “35” flash, press  or  to adjust the minute value.</p> <p>2.Then press , the second value “00” flash, press  or  to adjust the second value.</p> <p>3.Press  and hear a sound “Di”, then finish adjustment.</p>	<div data-bbox="785 667 1009 869" style="border: 1px solid black; padding: 5px;"> <p>Set Alkaline Draw T.</p> <p>35:00 min.:sec.</p> </div> <p data-bbox="841 879 941 906">Figure 47</p>
<p>Acid-Alkaline Drawing Time</p>	<p>1. In Figure 41, press  and select the item of “Set Ac. Al. Draw T.”; Then press , the setting interface will show as Figure 48, the minute value “65” flash, press  or  to adjust the minute value.</p> <p>2.Then press , the second value “00” flash, press  or  to adjust the second value.</p> <p>3.Press  and hear a sound “Di”, then</p>	<div data-bbox="785 1120 1009 1264" style="border: 1px solid black; padding: 5px;"> <p>Set Ac. Al. Draw T.</p> <p>65:00 min.:sec.</p> </div> <p data-bbox="785 1289 885 1316">Figure 48</p>

MODEL 46030/ 46040 (F109/ F109B)

	finish adjustment.	
Acid-Alkaline Rinse Time	<p>1. In Figure 41, press  and select the item of “Set Ac. Al. Rinse T.”; Then press , the setting interface will show as Figure 49, the minute value “30” flash, press  or  to adjust the minute value.</p> <p>2. Then press , the second value “00” flash, press  or  to adjust the second value.</p> <p>3. Press  and hear a sound “Di”, then finish adjustment.</p>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">Set Ac. Al. Rinse T. 30:00 min.:sec.</div> <p style="text-align: center;">Figure 49</p>
Drainage Time	<p>1. In Figure 41, press  and select the item of “Set Drainage Time”; Then press , the setting interface will show as Figure 50, the minute value “00” flash, press  or  to adjust the minute value.</p> <p>2. Then press , the second value “07” flash, press  or  to adjust the second value.</p> <p>3. Press  and hear a sound “Di”, then finish adjustment.</p>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">Set Drainage Time 00:07 min.:sec.</div> <p style="text-align: center;">Figure 50</p>
Mixing Time	<p>1. In Figure 41, press  and select the item of “Set Mixing Time”; Then press , the setting interface will show as Figure 51, the minute value “00” flash, press  or  to adjust the minute value.</p> <p>2. Then press , the second value “40” flash, press  or  to adjust the second value.</p>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;">Set Mixing Time 00:40 min.:sec.</div> <p style="text-align: center;">Figure 51</p>

MODEL 46030/ 46040 (F109/ F109B)

	<p>3.Press  and hear a sound “Di”, then finish adjustment.</p>	
<p>Rapid Drain Time</p>	<p>1.In Figure 41, press  and select the item of “Set Rapid Drain Time”; Then press , the setting interface will show as Figure 52, the minute value “00” flash, press  or  to adjust the minute value.</p> <p>2.Then press , the second value “10” flash, press  or  to adjust the second value.</p> <p>3.Press  and hear a sound “Di”, then finish adjustment.</p>	<div data-bbox="788 308 1020 515" style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>Set Rapid Drain Time</p> <p>00:10 min.:sec.</p> </div> <p style="text-align: center;">Figure 52</p>
<p>Air Drain Time</p>	<p>1. In Figure 41, press  and select the item of “Set Air Drain Time”; Then press , the setting interface will show as Figure 53, the minute value “05” flash, press  or  to adjust the minute value.</p> <p>2.Then press , the second value “00” flash, press  or  to adjust the second value.</p> <p>3.Press  and hear a sound “Di”, then finish adjustment.</p>	<div data-bbox="788 715 1020 882" style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>Set Air Drain Time</p> <p>05:00 min.:sec.</p> </div> <p style="text-align: center;">Figure 53</p>
<p>Fast Rinse Time</p>	<p>1.In Figure 41, press  and select the item of “Set Fast Rinse Time”;Then press , the setting interface will show as Figure 54, the minute value “10” flash, press  or  to adjust the minute value.</p> <p>2.Then press , the second value “00” flash, press  or  to adjust the second</p>	<div data-bbox="788 1193 1020 1361" style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>Set Fast Rinse Time</p> <p>10:00 min.:sec.</p> </div> <p style="text-align: center;">Figure 54</p>

MODEL 46030/ 46040 (F109/ F109B)

	value. 3.Press  and hear a sound “Di”, then finish adjustment.	
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3. System Configuration

3.1.Controller Configuration Table

F109			F109B		
Part No.	Description	Quantity	Part No.	Description	Quantity
8005065	Dust Cover	1	8005065	Dust Cover	1
8300049	Front Cover	1	8300049	Front Cover	1
6381006	Display Board	1	6381006	Display Board	1
6382101	Control Board	1	6382102	Control Board	1
5512002	Wire for Display Board	1	5512002	Wire for Display Board	1
8865084	Label	1	8865084	Label	1
5457048	Cable Joint	11	5457048	Cable Joint	18
8902029	Screw, Cross	6	8902029	Screw, Cross	6
6379031	Transformer	1	6379016	Transformer	1
5323001	End Cap	7			

3.2.Filter System Configuration Table

RXF-65 0.1MPa Pressure Drop Flow Rate 80m ³ /h			RXF-80 0.1MPa Pressure Drop Flow Rate 150m ³ /h		
Configuration	Model	Quantity	Configuration	Model	Quantity
Ball Valve Controller	F109	1	Ball Valve Controller	F109	1
DN65 Ball Valve	Q93154-65	5	DN80 Ball Valve	Q93154-80	5
Main Pipeline	Suggest to use size bigger than DN80		Main Pipeline	Suggest to use size bigger than DN100	

3.3. Softener System Configuration Table

RXS-65 0.1MPa Pressure Drop Flow Rate 80m ³ /h			RXS-80 0.1MPa Pressure Drop Flow Rate 150m ³ /h		
Configuration	Model	Quantity	Configuration	Model	Quantity
Ball Valve Controller	F109	1	Ball Valve Controller	F109	1
DN65 Ball Valve	Q93154-65	5	DN80 Ball Valve	Q93154-80	5
DN32 Ball	Q93102-32	2	DN40 Ball	Q93102-40	2

MODEL 46030/ 46040 (F109/ F109B)

Valve			Valve		
Main Pipeline	Suggest to use size bigger than DN80		Main Pipeline	Suggest to use size bigger than DN100	

3.4. Mixed Bed System Configuration Table

RXH-10 0.1MPa Pressure Drop Flow Rate 10m ³ /h			RXH-20 0.1MPa Pressure Drop Flow Rate 20m ³ /h		
Configuration	Model	Quantity	Configuration	Model	Quantity
Ball Valve Controller	F109B	1	Ball Valve Controller	F109B	1
DN25 Ball Valve	QQ93102-25	5	DN32 Ball Valve	Q93102-32	5
DN20 Ball Valve	QQ93102-20	8	DN25 Ball Valve	QQ93102-25	8
Resistivity Meter	2976073	1	Resistivity Meter	2976073	1
Injector		2	Injector		2
Main Pipeline	Suggest to use size bigger than DN32		Main Pipeline	Suggest to use size bigger than DN40	

RXH-30 0.1MPa Pressure Drop Flow Rate 30m ³ /h			RXH-45 0.1MPa Pressure Drop Flow Rate 45m ³ /h		
Configuration	Model	Quantity	Configuratio	Model	Quantity

MODEL 46030/ 46040 (F109/ F109B)

			n		
Ball Valve Controller	F109B	1	Ball Valve Controller	F109B	1
DN40 Ball Valve	Q93102-40	5	DN50 Ball Valve	Q93102-50	5
DN32 Ball Valve	Q93102-32	8	DN32 Ball Valve	Q93102-32	8
Resistivity Meter	2976073	1	Resistivity Meter	2976073	1
Injector		2	Injector		2
Main Pipeline	Suggest to use size bigger than DN50		Main Pipeline	Suggest to use size bigger than DN65	

4. Warranty Card

Dear client:

This warranty card is the guarantee proof of RUNXIN brand ball valve controller. It is kept by client self. You could get the after-sales services from the supplier which is appointed by RUNXIN manufacturer. Please keep it properly. It couldn't be retrieved if lost. It couldn't be repaired free of charge under the below conditions:

- 1.Guarantee period expired.(One year).
- 2.Damage resulting from using, maintenance, and keeping that are not in accordance with the instruction.
- 3.Damage resulting from repairing not by the appointed maintenance personnel.
- 4.Content in guarantee proof is unconfirmed with the label on the real

MODEL 46030/ 46040 (F109/ F109B)

good or be altered.

5.Damage resulting from force majeure.

Product Name	Ball Valve Controller				
Model		Code of Valve Body			
Purchase Company Name		Tel/Cel.			
Problem					
Solution					
Date of Repairing		Date of Accomplishment		Maintenance Man Signature	

When product need warranty service, please contact with your direct supplier first, after got permission, then fill in the below content and sent this card together with the product to the appointed suppliers or Runxin company.

End-user Company Name		Tel/Cel.	
Purchase Company Name		Tel/Cel.	
Model	Code of Valve Body		

MODEL 46030/ 46040 (F109/ F109B)

Problem Description	
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