润新 RUNXIN

International Professional Manufacturer of
Control Valve for Water Treatment Systems

China RUNXIN Valve

Technical Support and Service Manual(2015)

WENZHOU RUNXIN MANUFACTURING MACHINE CO.,LTD.

Runxin company outer view

Company Profile

Founded in 2000, Wenzhou Runxin Manufacturing Machine Co., Ltd. is located in Wenzhou, Zhejiang. Runxin is titled with the “National New High-tech Enterprise”, “Zhejiang Patent Model Enterprise”, “Wenzhou High Integrity Enterprise” and “Interview Base”. Its main products include multi-functional flow control valve for water treatment systems, residential softener, ceramic ball valve, valve for solar energy heating and so on, which are rewarded of Zhejiang famous trademark and Wenzhou famous product. With more than ten years development, Runxin becomes one of three global professional manufacturers of control valve for water treatment systems. Up till November of 2014, Runxin products are widely spread in China and exported to 84 countries and regions in Asia, Europe, Oceania, Africa and America.

Self-researched and developed with intellectual property right, the core product “Multi-functional flow control valve for water treatment systems” creatively adopts ceramic hermetic head faces and multiple passages which bring the breakthrough in the water treatment field. It is not only authorized with many patents from America, Russia, South Korea, Mexico, Australia, India, Philippines and European countries more than ten, like Germany, Italy and France and Taiwan of China, but also recognized by National Sanitary Foundation(NSF), thus gaining good reputation both at home and abroad. These patents, combined with other 20 more patent technologies which are gained by successively researching “Multi-functional softener valve”, “Integrated softener” and “Ball valve” form a patent net that establish the technology leading status of Runxin in water treatment field.

The new developed Runlucky residential softener and the whole house water filter based on Runxin valve technology is favored in the market once it launched. Till now, it has been exported to 24 countries and regions, such as America, Russia, France, Italy, Brazil, etc.. Runxin successfully uses the ceramic hard sealing technology on ball valve. The patented ceramic ball valve improved the shortage of traditional metal core ball valve which is easy leakage, heavy torque and the sealing surface is not corrosion resistance, and overcame the difficulties of tough process technology. Till now, it has three series which are manual, automatic and pneumatic.

We established the R&D center, testing center, laboratory, measuring room with strictly requirements and heavy investment. Talents converge on Runxin and Runxin is equipped with the best testing equipments which can do bursting pressure test, cyclic pressure test, life time test and simulated transportation test. They can detect the performance on mechanics, thermology, environmental aging and electronic interference aspects of plastic, rubber and electronic components, to make sure each product which from raw material, spare part and finished product is safety and reliable on from design, manufacturing to leave from factory. Runxin has more than 400 sets of production equipments, including 63 sets of precision injection machines, 8 sets of process centers, 15 sets of CNC machines, etc., concentrated feed systems and mechanical arm, adopts automated assembly line. Through implementing PDM, ERP, OA systems to realize standardization and information management.

Now, Runxin has established distributors and after sales service offices in more than 30 cities in China including Beijing, Shanghai, Guangzhou, Wuhan, Chengdu etc., and in 50 countries including America, Russia, France, India, Spain, Brazil etc.. Products have been exported to 84 countries and regions, such as America, Germany, Japan, England, Italy, etc., serviced for millions of users in all five continents.

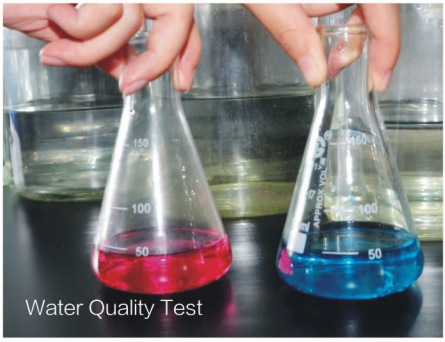
With the spirits of “Humbleness, gratefulness, honesty, wisdom and diligence” and value of “Surpass myself, dedicate to society”, Runxin is devoted to shaping herself as a “Global professional manufacturer of residential softener and control valve for water treatment systems” and making more people benefit from our innovation and enjoy a better life.


Injection Workshop


Production Workshop


EXTRON
206
Process Center


Test Center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Water Quality Test

Certificate and patent

Runxin valve with the design of ceramic hermetic head faces, multi-flow passages, have achieved 18 countries' innovation patents including USA, Russia, South Korea, Mexico, Australia, India, Philippines and EU ten members Germany, Italy, France, Netherlands, etc..Products have been authorized by NSF, CE and RoHS.

NSF Certificate

CE Certificate

RoHS Certificate

ISO9001:2008 Certificate

US Patent

Russia Patent

Taiwan Patent

South Korea Patent

EU Patent

Philippines Patent

India Patent

Mexico Patent

Australia Patent

Multi-functional Flow ControlValve for Continuous Water Supplying

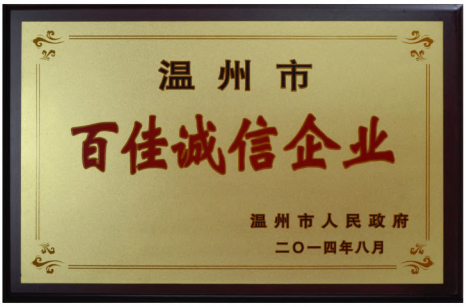
Multi-function Softener Valve for Energy Saving

A Valve Remotely Controlled by Cell Phone

Automatic Water Treatment Device

Company honor

National New High-tech Enterprise



Wenzhou High Integrity Enterprise

China Customs Recognized Class A Enterprise

Zhejiang Province Famous Trademark

ISO9001:2008 Certificate

Wenzhou Credit Management Model Company

Wenzhou Top Industrial Enterprise

Zhejiang Industrial Product Exportation Management Class Ⅰ Enterprise

One of Main Pioneer Enterprises for Performance Testing in Lucheng District in Wenzhou

Wenzhou Propaganda Interview Base

1. The Principle and Construction of Runxin Valves

1.1. Nomenclature of Runxin Valves

1.1.1.Nomenclature

A.Runxin valves are named according to below table. Its model number consists of 5 digits.

Maximum Flow Rate, eg. 02 stands for 2 m^3/h

Handle type or regeneration type,1-Metal Handle; 2-Plastic Handle; 5-Time Clock Type; 6-Meter Type;7-Online Monitoring; 0-Other or Filter Valve

Controlling Type:1-Manual;2-LCD Display Automatic 3-LED Display Automatic; 0-Semi-automatic

Note: If Fist Digit is 1 or 4, it has different meanings. Detail information is shown Table2.A and 2.B.

Application:1-Special Application; 4-Spare Parts; 5-Filter Valve;6-Downflow Softener; 7-Upflow Softener; 8-Down/Up-flow Softener; 9-Floating Bed

Remark:

If Model No. follows by a new English character, it means this is a Derivative product from above model.

If Model No. follows by P, it means the valve body is PPO material.

If Model No. follows by -□□ (-□□ is 2 characters), it means it is customized.

Examples：

63504S means the valve with a manual wheel. (F63B1);

51104/P means the valve body of 51104 is PPO(Old Model No.:F56A/P.)

The data of maximum capacity measured on 0.3MPa of inlet pressure.

1.1.2.Nomenclature Regulation

A.Comparison List of New and Old Valve Models

New Model	Old Model	Max. Flow Rate m^3/h	Remark
Manual filter valve series			
51101A	F52	1	Base M82*3
51101B	F56B	1	10″ Filter housing
51101C	F56C	1	20″ Filter housing
51102	F56E	2	
51202C	F56EC	2	Side-control
51104	F56A	4	
51204C	F56AC	4	Side-control
51106	F56F	6	
51110	F56D	10	
51215	F77BS	15	
51230	F78BS	30	
3^{rd} Digit stands for handle material, 1-Metal, 2-Plastic			
Manual softener valve series			
61202	F64B	2	
61202C	F64BC	2	Side-control
61104	F64A	4	
61204C	F64AC	4	Side-control
61106	F64F	6	
61210	F64D	10	
61215	F77AS	15	
61240	F78AS	40	
71202	F64C	2	

New Model	Old Model	Max. Flow Rate m^3/h	Remark
Automatic softener valve series (Down-flow regeneration)			
62502H	F65D1	2	LCD, Residential
62504H	F63D1	4	LCD, Residential
63502	F65B1	2	
63502B	F65G1	2	New appearance
63502P	F65P1	2	Light indicator
63504	F63C1	4	
63504B	F63G1	4	New appearance
63504P	F63P1	4	Light indicator
63504S	F63B1	4	With hand wheel
63510	F74A1	10	
63510B	F74B1	10	Top-mounted or Side-mounted
63515	F99A1	15	
63518	F77A1	18	
63520	F95A1	20	F77 Improved type
63520C	F111A1	20	F95 Side-mounted
63540	F78A1	40	Piston, Side-mounted
63550	F96A1	50	Piston, Side-mounted
Automatic softener valve series (Up-flow regeneration)			
72502H	F69D1	2	LCD, Residential
72504H	F68D1	4	LCD, Residential
73502	F69A1	2	
73502B	F69G1	2	New appearance

Automatic filter valve series			
52502H	F71D1	2	LCD Outlet behind
52504H	F67D1	4	LCD Outlet behind
53502	F71B1	2	
53502B	F71G1	2	Different appearance
53502P	F71P1	2	Light indicator
53504	F67C1	4	
53504B	F67G1	4	Different appearance
53504S	F67B1	4	With hand wheel
53504P	F67P1	4	Light indicator
53506S	F67B-A	6	Riser pipe 1"-GB
53510	F75A1	10	
53510B	F75B1	10	Top-mounted or Side-mounted
53518	F77B1	18	Two valve cores
53520	F95B1	20	F77 Improved type
53530	F78B1	30	Piston, Side-mounted
53540	F96B1	40	Piston, Side-mounted
Valves for floating bed systems series			
91215	F77CS	15	Manual
91240	F78CS	40	Manual, hard water for regeneration
93504	F83A	4	Signal valve
93620	F95C3	20	Signal valve, soft water for regeneration
93540	F78C	40	Signal valve, soft water for regeneration
93606	F98C	6	One in service one standby
93610	F88C	10	One in service one standby
73502P	F69P1	2	Light indicator
73504	F68C1	4	
73504B	F68G1	4	New appearance
73504S	F68A1	4	With hand wheel
73504P	F68P1	4	Light indicator
73605	F92A3	5	Refilled with soft water
73620	F95D3	20	
Automatic softener valve series (Down-flow regeneration)			
82601	F81	1	LCD
82602	F79A-LCD	2	LCD
82602B	F79B-LCD	2	LCD
82602H	F79D	2	LCD, Residential
82604	F82A-LCD	4	LCD
82604B	F82B-LCD	4	LCD
82604H	F82D	4	LCD, Residential
82602E	F105A	2	Refilled with soft water
82604E	F97A	4	Refilled with soft water
83602	F79A3	2	Meter type
83602B	F79B3	2	Hard water bypass
83604	F82A3	4	Meter type
83604B	F82B3	4	Hard water bypass
Semi-automatic control valve series			
50002	F71C	2	Filter
70002	F69C	2	Up-flow softener
60002	F65C	2	Down-flow softener

In above table, for automatic valve, there are meter type (The 3rd digit with 6) and time clock type (The 3rd digit with 5). F95 (F111) is the improved F77 valve. F112 is the improved F78 valve.

B.Special Application Valves

New Model	Description	Max. Flow Rate m^3/h	Old Model		New Model	Description	Max. Flow Rate m^3/h	Old Model
11501	Removal Fluoride Valve	1	F83B1		17603	One in Service One Standby	3	F73
13504	Deaerator Valve	4			17606		6	F98A
15702	Mixed Bed Valve	2			17610		10	F88A
15704		4						
11- Removal Fluoride Valve; 13-Deaerator Valve; 15-Mixed Bed Valve; 17-One in Service One Standby; In this Table, the 2rd digit has different meaning from above normal nomenclature.								

C.Accessories

New Model	Description	Max. Flow Rate m^3/h	Old Model		New Model	Description	Max. Flow Rate m^3/h	Old Model
41102	Bypass Valve	2	F70B		43010	Brine Valve	/	With 0717 Tank
41202		2	F70D		43011			With 0713 Tank
41104		4	F70A		43020			1.2 meters high
41204		4	F70C		43021			1 meters high
41206		6	F70F		43022			0.8 meters high
42020	Tee Valve	20	F80		43023			0.6 meters high
44310	Hardness Online Monitoring Instrument		F84		45006	Disc Filter	6	Inlet/Outlet Size 1"
48810	Salt Shortage Alarm Device		F100		45012		12	Inlet/Outlet Size 2"
46010	One in Service One Standby Controller		F91		45020		20	Inlet/Outlet Size 2"
47010	Disinfection Device				45040		40	Inlet/Outlet Size 2.5"
4-Accessories; 41-Bypass Valve；42-Tee Valve; 43-Brine Valve or Water Level Controller; 44-Online Monitoring Unit; 45-Disc Filter; 46-One in Service One Standby Controller; 47-Disinfection Device; 48- Salt Shortage Alarm Device. In this Table, the second digit has different meaning from above normal nomenclature.								

1.1.3.Table of System Configuration with Runxin Valves

Max. Flow Rate	Filter		Manual Softener		Automatic Softener		
	Manual	Automatic	DF	UF	DF	UF	DF/UF
1-2 m^3/h	51101B/C 51102/C	53502 53502P	61202 61202C	71202	63502 63502P	73502 73502P	82602 82602E
	F56B/C F56E/EC	F71B1 F71P1	F64B F64BC	F64C	F65B1 F65P1	F69A1 F69P1	F79A F105A
3-4 m^3/h	51104 51104C	53504 53504P	61104 61104C		63504 63504P	73504 73504P	82604E 17603
	F56A F56AC	F67C1 F67P1	F64A F64AC		F63C1 F63P1	F68C1 F68P1	F97A3 F73
5-6 m^3/h	51106	53506S	61106		17606	73605	
	F56F	F67B-A	F64F		F98A	F92A3	
8-12 m^3/h	51110	53510	61210		63510 17610		
	F56D	F75A1	F64D		F74A1 F88A		
15-20 m^3/h	51215	53518	61215	91215	63518 63520	73520	
	F77BS	F77B1	F77AS	F77CS	F77A1 F95A1	F95D1	
30-40 m^3/h	51230	53530	61240	91240	63540 63540B	93540 93540B	
	F78BS	F78B1	F78AS	F78CS	F78A1 F112A1	F78C1 F112C1	
40-50 m^3/h		53540			63650		
		F96B1			F96A1		

Remark: The digit model No. is the new model, the model No. beginning with F is the old model. Each automatic softener valve has meter type.

1.2. Principle

1.2.1. Working Principle

Using hermetic head faces theory, Runxin valve is designed to integrate multi-ports round closely to one valve body. When the rotor rotates, some ports will be shut off and meanwhile some other ports will be open, and thus the water will flow in and out this valve.

A. Construction

Runxin valve uses high-flatness moving disk and fixed disk to work as a valve. Fixed disk is fixed and moving disk is driven by handle or motor to rotate closely over fixed disk. There are several blind via and through-holes on fixed disk and moving disk, when moving disk stays on different positions of fixed disk, and then different flow passages will be formed. For softener valves, these positions are Service, Backwash, Brine & Slow Rinse, Brine Refill and Fast Rinse. If it is a filter valve, it has 3 positions: Service, Backwash and Fast Rinse.

B.Controller

Signal→Controller→Actuator→Moving Disk→ Locating Device→ Controller

The controller gets signal from Timer, Meter or Water Quality Detecting Instrument, and then will initiate the motor to drive the actuator to rotate the moving disk, and when the moving disk rotates to the correct position, another signal will be sent to the controller through the locating device, and the controller will stop the moving disk until it finishes this step; When next new signal is received by the controller, the controller will drive the moving disk to rotate to a new position and so on until all steps are finished.

The operational process for F63 and F96 are below:

1.2.2. The Principle of F63 Softener Valve

In Figure 1-1, it shows moving disk and fixed disk of F63 Runxin valve. Fixed disk is fixed on the valve body. Valve body has ports of Inlet, Outlet, Drain, Brine and Top/Bottom strainers, and these ports are connected with through hole on fixed disk. On the moving disk, it has a

through-hole permanent connect with inlet, two blind holes. The moving disk will closely attach the fixed disk and rotates and thus flow passages are formed, named Service, Backwash, Brine & Slow Rinse and Fast Rinse working positions, as shown in Figure1-2 to Figure 1-6.

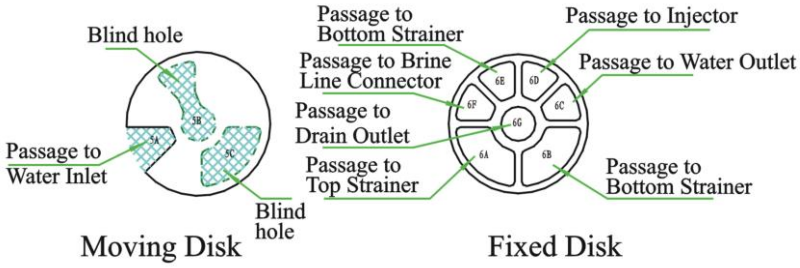


Figure 1-1 Moving Disk and Fixed Disk of F63

A. Service Position

In Service position, hard water enters unit at valve inlet and flows through-holes on moving disk-then flows through the fixed disk-then flows through top strainer- then flows down through the resin in the resin tank. In the resin bed, the hard water is revert to soft water after ion-exchange process. Soft water enters center tube through the bottom distributor — then flows up thru the center tube — then through valve body-then through the passage formed by the fixed disk and moving disk-then flows through out of valve.

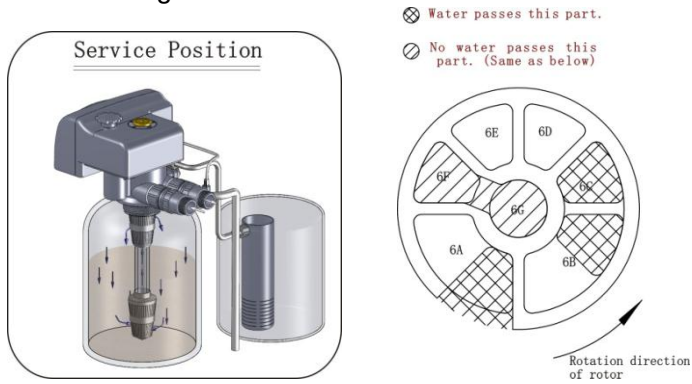


Figure 1-2 Flow Process of Service Position

B. Backwash Position

In Backwash position, hard water enters unit at valve inlet - flows to the passage of moving disk- enters the Stator-through valve body- down the center tube - through the bottom distributor and up through the resin – flows up to top distributor – to valve body – to the fixed disk- to the moving disk-flows out the drain line.

(Under backwash status, outlet water could pass through brine line connector into brine tank so a check valve is suggested to be installed in water outlet.)

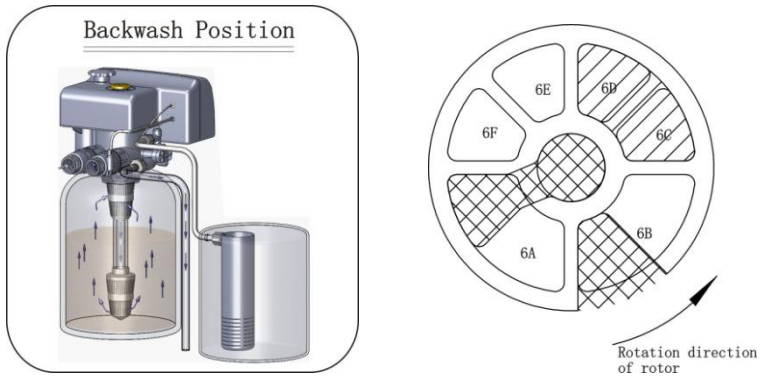


Figure 1-3 Flow Process of Backwash Position

C.Brine & Slow Rinse Position

In Brine & Slow Rinse Position, hard water enters unit at valve inlet - flows through-holes on moving disk-then flows through the fixed disk - flows up into injector housing and down through nozzle and orifice to draw brine from the brine tank —mixed salt water flows down thru resin – after finishes ion-exchange – to bottom distributor — flows up thru center tube —flows up to top distributor – to valve body – to the fixed disk- to the moving disk-flows out the drain line.

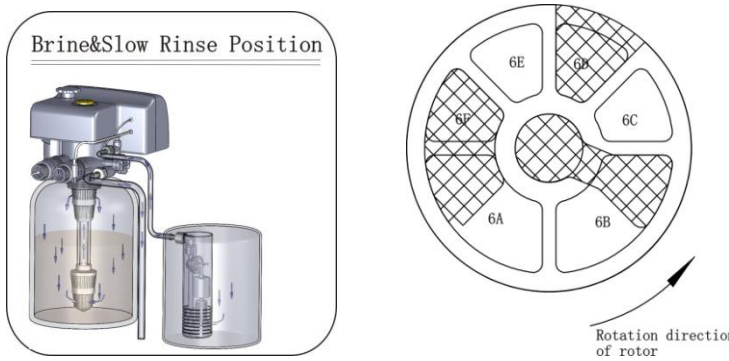


Figure 1-4 Flow Process of Brine & Slow Rinse Position

D. Brine Refill Position

In Brine Refill Position, hard water enters into the fixed disk via through-holes on moving disk-flows through the injector, one part of water fills into the brine tank from brine line connector, another part cleans up the injector-then flows through the passage formed by the fixed disk and moving disk-flows out the drain line.

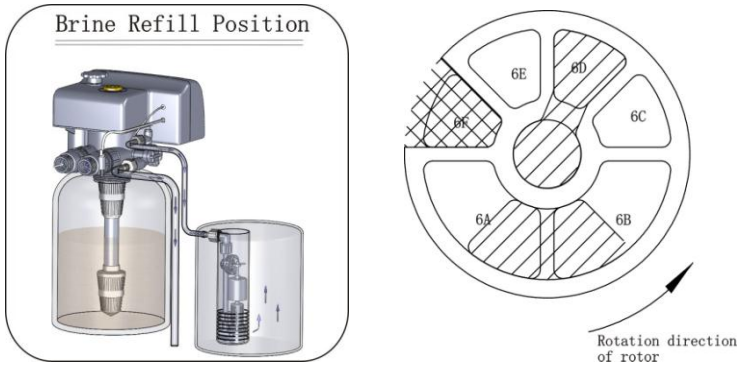


Figure 1-5 Flow Process of Brine Refill

E. Fast Rinse Position

In Fast Rinse Position, hard water enters into the fixed disk via through-holes on moving disk-then flows through valve body and top strainer- then flows down through the resin in the resin tank-after rinse, sewage enters center tube through the bottom distributor-then

through the passage formed by the fixed disk and moving disk- flows out the drain line.

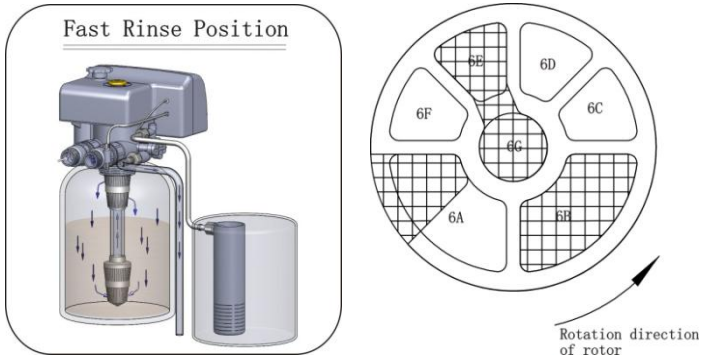
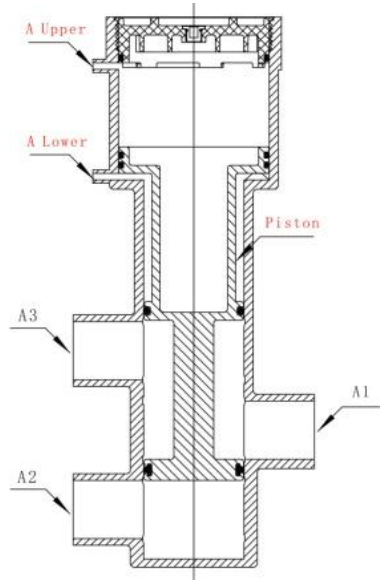


Figure 1-6 Flow Process of Fast Rinse

Runxin filter control valve, it only has Service, Backwash and Fast Rinse total 3 steps.

1.2.3. The Principle of F96 Softener Valve

F96 has 4 Tee piston valves A, B, C, D inside the valve body (Figure1-7). The moving disk has 4 through-holes and 1 blind hole (Figure1-8). The fixed disk has A upper, A lower, B upper, B lower, C upper, C lower, D upper, D lower, total 8 passages (Figure1-9) and interlink with upper/lower rooms of A, B, C, D of tee piston valve (Figure1-10).



F

Figure 1-7 Tee Piston Valve

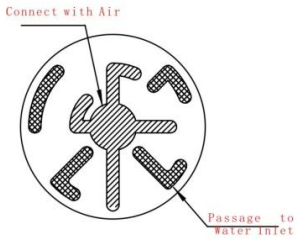


Figure1-8 The Moving Disk

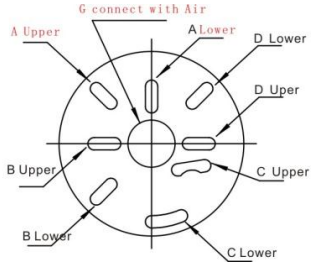


Figure1-9 The Fixed Disk

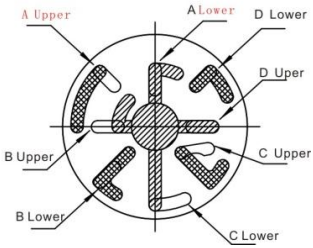


Figure1-10 The Fixed Disk/Moving Disk in Service Position

A. Service Position

In Service position, as shown in Figure1-10, distribution valve control four tee piston valves to realize A piston downward, B piston upward, C piston downward, D piston upward, then it can form passage as Figure1-11.

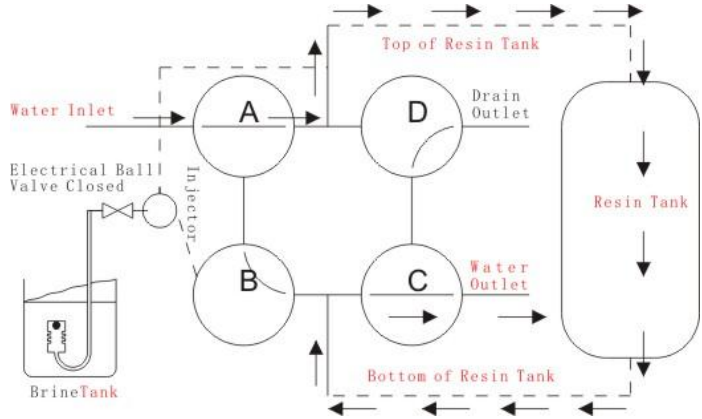


Figure1-11 Water Flow Process in Service Position

B.Backwash Position

In Backwash position, through different angles of fixed and moving disks located respectively, distribution valve control four tee piston valves to realize A piston upward, B piston upward, C piston upward, D piston downward, then it can form passage as Figure1-12.

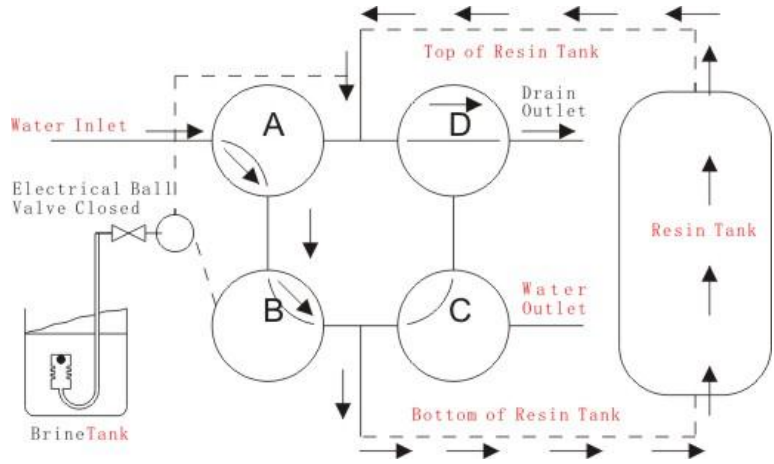


Figure1-12 Water Flow Process in Backwash Position

C.Brine & Slow Rinse Position

In Brine & Slow Rinse position, through different angles of fixed and moving disks located respectively, distribution valve control four tee piston valves to realize A piston upward, B piston downward, C piston upward, D piston upward, meanwhile, electronic ball valve will be opened, then it can form passage as Figure1-13. When brine draw finished, the ball valve will be turned off and enters into slow rinse status.

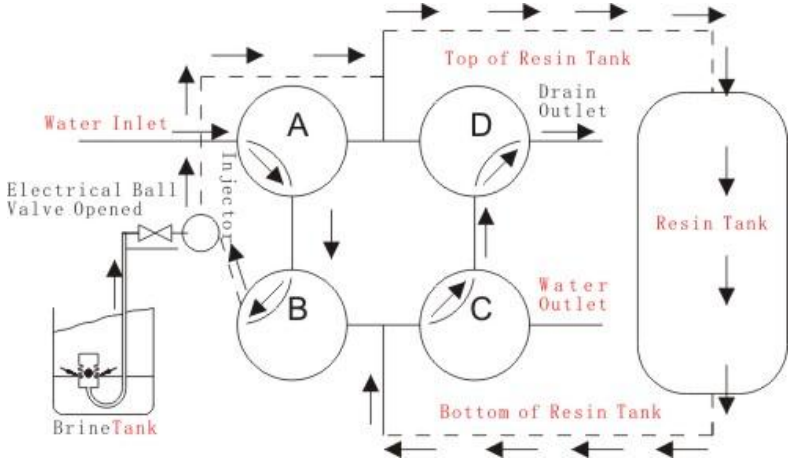


Figure1-13 Water Flow Process in Brine& Slow Rinse Position

D. Fast Rinse Position

In Fast Rinse position, through different angles of fixed and moving disks located respectively, distribution valve control four tee piston valves to realize A piston downward, B piston upward, C piston upward, D piston upward, then it can form passage as Figure1-14.

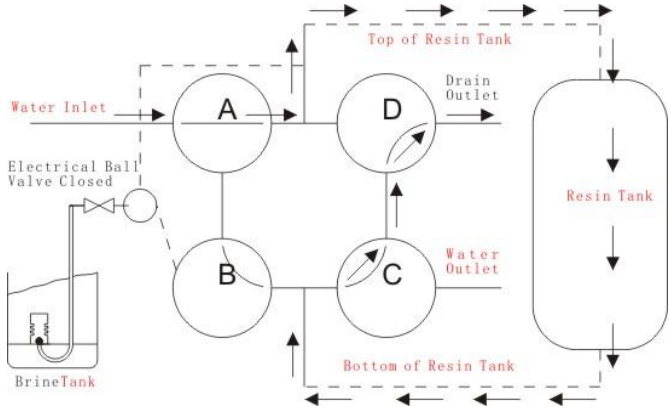


Figure1-14 Water Flow Process in Fast Rinse Position

E.Brine Refill Position

After the unit finishes Fast Rinse position, it will return service position again. In the same time, the electrical ball valve will opened, a small part of hard water fills into brine tank though injector. The electrical ball valve will be turned off when the set Brine Refill Time ends.

From its principle, F96 softener valve distributes the pressure source on four tee piston valves through distribution valve. The area of bearing pressure on the top and bottom of piston is different which forms pressure difference and result in piston moves in or out in chamber. In order to make this pressure difference, there is a diaphragm pump matched with control valve to make **inlet pressure≥0.2MPa≥inlet pressure of main valve ensure fixed disk is connected with G.**

When used as a filtration system, distribution valve controls pistons to run Service, Backwash and Fast Rinse functions.

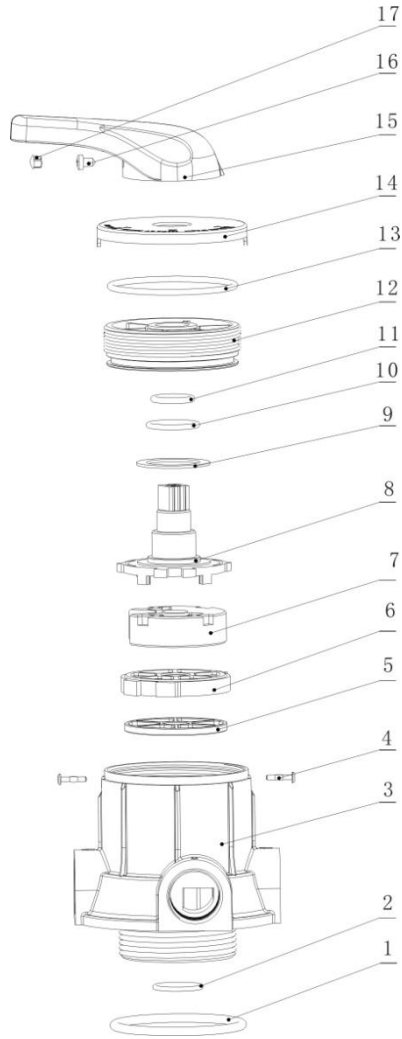
2.Product Construction and Features

2.1.Assembly & Parts of Runxin Valve

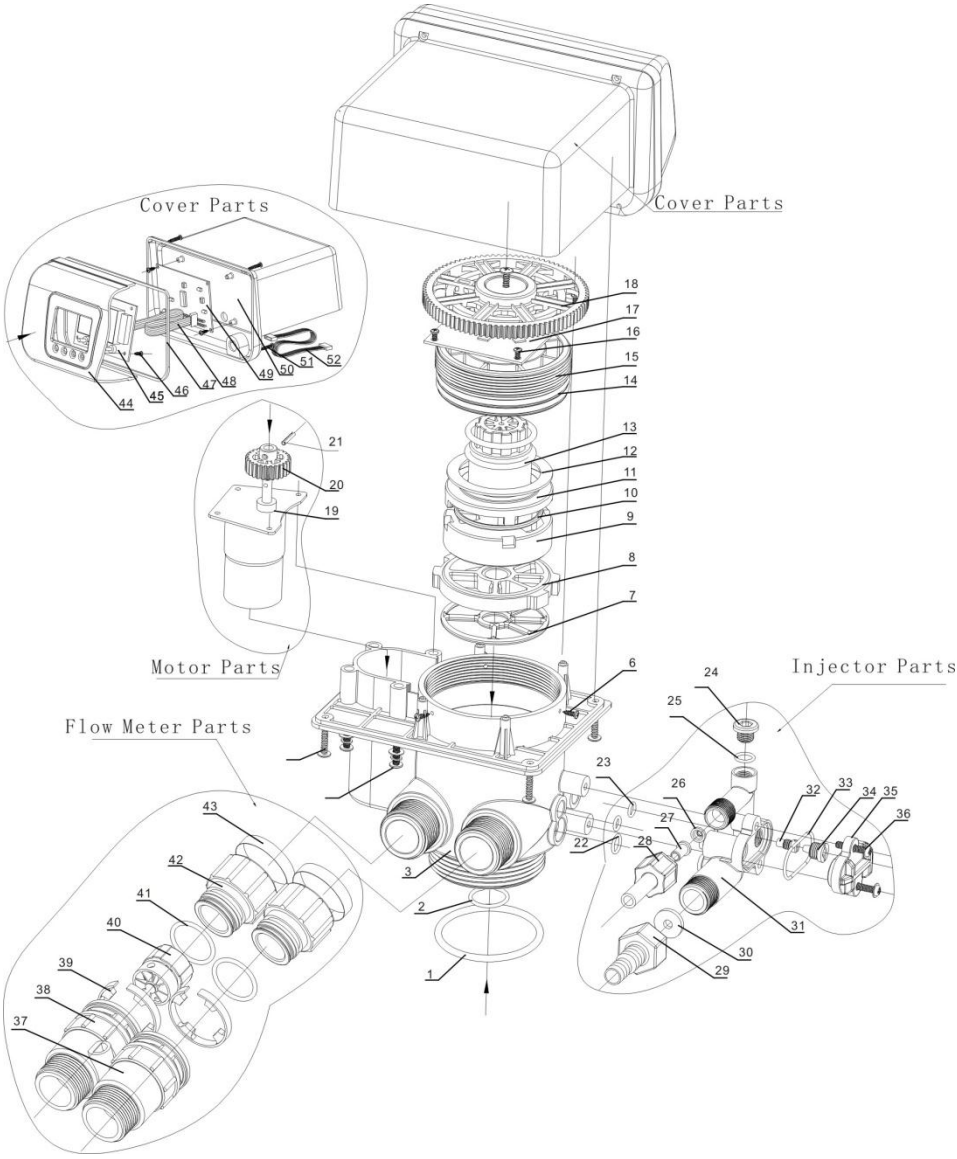
2.1.1. F56A Valve Assembly

F56A Valve Assembly

Item No.	Description	Part No.	Quantity
1	O-Ring	8378143	1
2	O-Ring	8378078	1
3	Valve Body	8022002	1
4	Screw, Plastic	8993002	2
5	Seal Ring	8370005	1
6	Fixed Disk	8469003	1
7	Moving Disk	8459003	1
8	Shaft	8258003	1
9	Anti-friction Washer	8216003	1
10	O-ring	8378115	1
11	O-ring	8378113	1
12	Fitting Nut	8092003	1
13	O-ring	8378128	1
14	Cover	8444020	1
15	Handle	8253005	1
16	Screw, Cross	8902014	1
17	Buckle	8323001	1



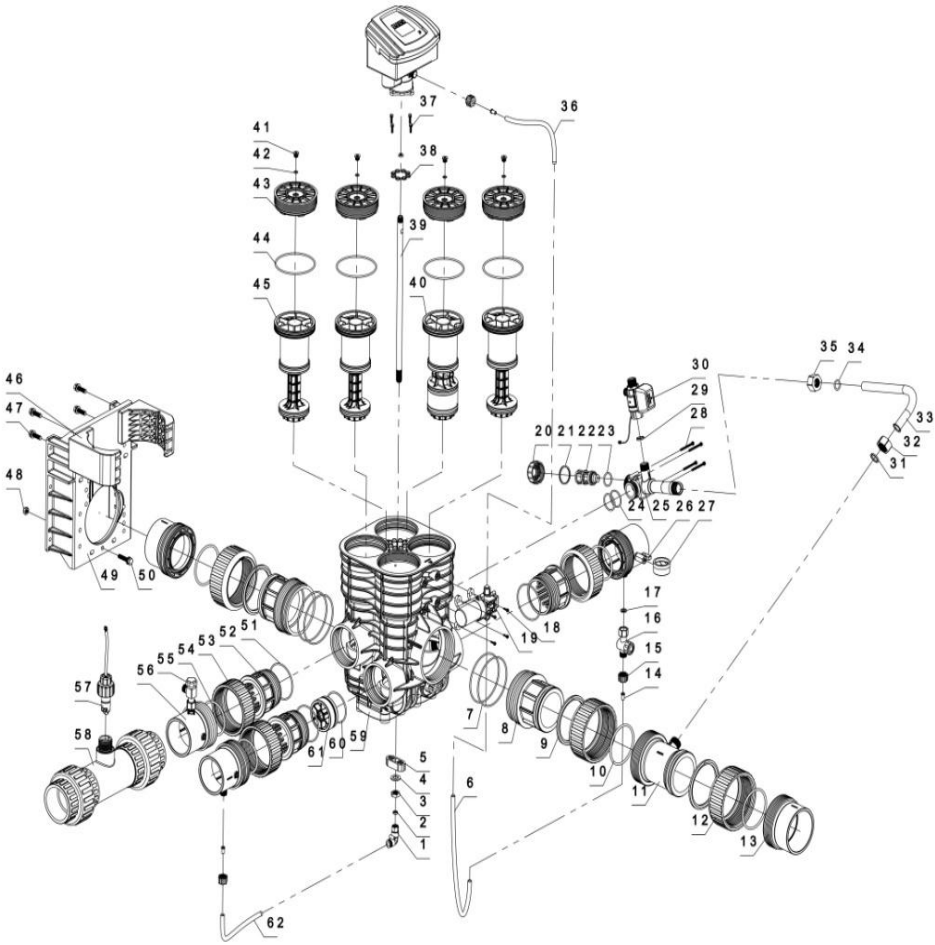
2.1.2. F63C3 Valve Assembly



F63C3 part No.

Item No.	Description	Part No.	Quantity		Item No.	Description	Part No.	Quantity
1	O-ring	8378143	1		27	Tube	8457004	1
2	O-ring	8378078	1		28	Nut, Hex.Hd	8940001	1
3	Valve Body	5022033	1		29	Joint	8458017	1
4	Screw, Cross	8902009	4		30	Drin Line Flow Control	8468017	1
5	Screw, Cross	8909016	4		31	Injector Body	8008001	1
6	Screw, Cross	8909010	3		32	Throat, Injector	8467009	1
7	Seal Ring	8370002	1		33	O-ring	8378025	1
8	Fixed Disk	8469001	1		34	Nozzle, Injector	8454009	1
9	Moving Disk	8459001	1		35	Cover, Injector	8315001	1
10	Moving Seal Ring	8371001	1		36	Screw, Cross	8902017	2
11	Shaft	8258004	1		37	Joint	8458038	1
12	Anti-friction Washer	8216004	1		38	Cover	8002001	1
13	O-ring	8378118	2		39	Clip	8270001	2
14	O-ring	8378143	1		40	Turbine	5295001	1
15	Fitting Nut	8092004	1		41	O-ring	8378081	2
16	Screw, Cross	8909007	4		42	Fitting Nut	8945001	2
17	Locating Board	6380002	1		43	Ferrule	8270002	2
18	Big Gear, Driven	5241002	1		44	Front Cover	8300001	1
19	Motor	6158011	1		45	Display Board	6381003	1
20	Small Gear, Motor	8241003	1		46	Screw, Cross	8909004	4
21	Pin	8993001	1		47	Seal Ring	8371001	1
22	O-ring	8378012	1		48	Wire for Display Board	5512001	1
23	O-ring	8378016	2		49	Control Board	6328003	1
24	Plug	8323002	1		50	Dust Cover	8005006	1
25	Seal Ring	8370003	1		51	Screw, Cross	8909010	4
26	Brine Line Flow Control	8468002	1		52	Wire for Locating Board	5511001	1

2.1.3. F96A3 Valve Assembly (The Main Valve Body Part)



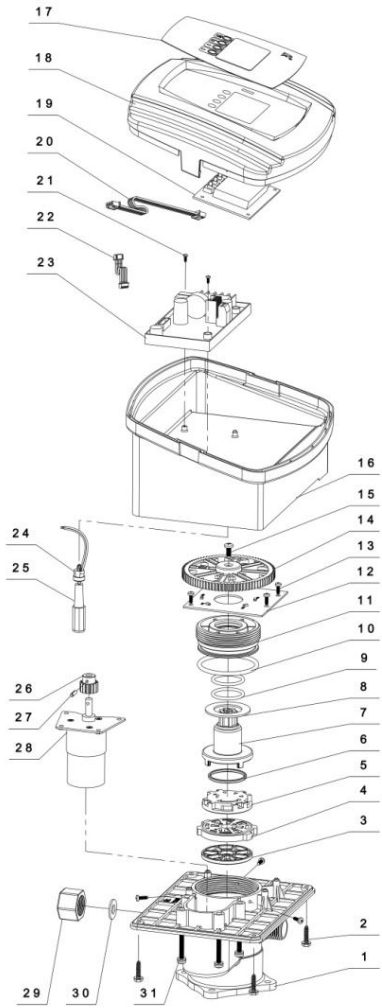
F96A3 main valve body part No.

Item No.	Description	Part No.	Quantity
1	Air Pipeline Connector	5455001	1
2	Seal Washer	8371011	2
3	Nut	8940005	1
4	Washer	8952003	1
5	Gasket	8156003	1
6	Air Pipeline	8465010	1
7	O-ring	8378218	4
8	Connector	8458081	2
9	Clip	8270011	3
10	O-ring	8378219	3
11	Connector	8458078	1
12	Animated Nut	8947030	3
13	Connector	8458077	2
14	Pipeline	8457025	3
15	Hexagonal Nut	8940016	3
16	Filter	3914001	1
17	Seal Washer	8371021	1
18	Hexagonal Bolt	8909016	4
19	Diaphragm Pump	2976091	1
20	Injector Cover	8315013	1
21	Seal Washer	8371006	1
22	Nozzle	8454025	1
23	O-ring	8378104	1
24	O-ring	8378101	2
25	Injector Body	8008006	1
26	Pressure Gauge Protect Valve	2976013	1

Item No.	Description	Part No.	Quantity
32	Nut	8940006	1
33	Elbow Pipeline	8457072	1
34	O-ring	8378113	1
35	Nut	8940007	1
36	Air Pipeline	8465012	1
37	Hexagonal Bolt Set	5851006	4
38	Seal Washer	8371047	8
39	Pipeline	8457075	1
40	Piston	5450002	1
41	Plug	8323016	4
42	O-ring	8378031	4
43	Cover	8315037	4
44	O-ring	8378214	4
45	Piston	5450001	3
46	Support	5156002	2
47	Hexagonal Bolt Set	5851001	4
48	Hexagonal Nut	8940023	1
49	Fixer	8109053	1
50	Hexagonal Bolt Set	5851009	1
51	O-ring	8378199	3
52	Connector	8458080	3
53	Animated Nut	8947031	3
54	O-ring	8378216	12
55	Corner Valve	3911004.05	1
56	Connector	8458079	3
57	Impeller Set	5295004	1

27	Pressure Gauge	6342001	1		58	Tee Valve	5457026	1
28	Hexagonal Bolt Set	5851005	4		59	Valve Body	5022068	1
29	Seal Washer	8371019	1		60	O-ring	8378217	1
30	Ball Valve	2976064	1		61	Flow Control	8468071	1
31	Washer	8371001	1		62	Air Pipeline	8465013	1

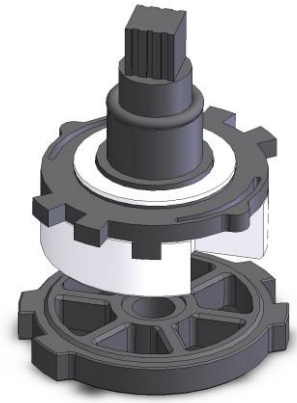
F96A3 Valve Body Assembly (The Distribution Valve Part)



F96A3 Distribution Valve Part No.

Item No.	Description	Part No.	Quantity		Item No.	Description	Part No.	Quantity
1	Valve Body	8022169	1		17	Label	8865001	1
2	Hexagonal Bolt	8909016	4		18	Front Cover	8300002.05	1
3	Seal Ring	8370031	1		19	Display Board	6381003	1
4	Fixed Disk	8469023	1		20	Wire for Display Board	5512001	1
5	Moving Disk	8459025	1		21	Screw, Cross	8909004	2
6	Moving Seal Ring	8370053	1		22	Wire for Locating Board	5511019	1
7	Shaft	8258009	1		23	Main Board	6382057	1
8	Anti-friction Washer	8216010	1		24	Wire Clip	8126014	1
9	O-ring	8378078	2		25	Power Wire	5513011	1
10	O-ring	8378107	1		26	Small Gear	8241010	1
11	Fitting Nut	8092007	1		27	Pin	8993003	1
12	Locating Board	6380034	1		28	Motor	6158506	1
13	Screw, Cross	8909008	4		29	Blind Hole Nut	8940012	1
14	Gear	5241005	1		30	Seal Washer	8371020	1
15	Screw, Cross	8909013	1		31	Screw, Cross	8902008	4
16	Back Cover	8005002	1					

2.2. Advantages



2.2.1. Hermetic Head Faces Construction

A. Ceramic Moving Disk

①Ceramic Disk is fritted at 1680℃.
②Content : Al_2O_3≥95%
③ HRA≥85° ， Flatness ≤0.0003mm ， Parallelism // ≤ 0.015mm
④Acid and alkaline resistance: Ceramic has excellent stability against Inorganic acid and alkaline at normal temperature.

B. High Strength Synthetic Fixed Disk

① High Strength Synthetic material ensure the fixed disk resisting corrosion from many kinds acids and strong alkalines except hot concentrated Nitric acid.
②The fixed disk is grinded to have same flatness as the ceramic moving disk to keep good and reliable sealing.
③Hermetic head faces construction has better ability to prevent damage from foreign substance in the water.

Because of good corrosion resistance, Runxin control valve has a very good application in Anion/Cation ion-exchange system.

C. For each softener valve, it adopts partly balance construction to prevent big torque as water pressure increasing.

2.2.2. Operate with Pressure

Runxin valve uses two high-flatness sealing disks closely located respectively. When switch the working positions, it could operate with pressure.

Note: The valves which uses soft sealing element like rubber parts, it can't operate with pressure. It needs to shut off the inlet valve before switching.

2.2.3. No Hard Water Bypass Option

No Hard Water Bypass (NHWP) means the valve can internally

prevent raw water from getting into service lines during regeneration. All Runxin valves can shut off the passage to outlet during regeneration except Model: F79，F82 and F92.

2.2.4. Varieties of Specifications injector

The ratio of injector draw to total flow rate is around 25%~35%. Each tank has a specific injector matched.

2.3.Features

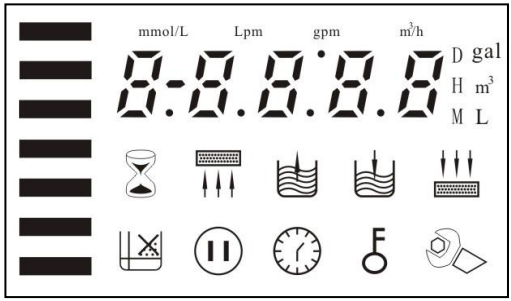
2.3.1.Features of Manual Valve

Manual valve initates regeneration by rotating handle, and it has vivid symbols on the valve body, these symbols indicates service and all regeneration cycle steps position. Please refer to below table:

English	Figure	Description
SERVICE		In Service Status
BACK WASH		In Backwash Status
BRINE&SLOWR.		In Brine&Slow Rinse Status
BRINE REFILL		In Brine Tank Refill Status
FAST RINSE		In Fast Rinse Status

2.3.2.Features of Automatic Valve (LED)

1). LED Dynamic Screen Display



Controller display screen uses colorful LED, and it has vivid symbol to indicate all working status of system.

The stripe on Dynamic Screen and ⧗ both flash, it indicates the control valve is In Service. Otherwise, it is in Regeneration Cycle.

2). Buttons Lock

Function: Buttons Lock can avoid incorrect operation.

① Lock: No operations to buttons on the controller within 1 minute, Button Lock Indicator light on, and then self-locking happens.

② Unlock: Press and hold both“▲”and“▼” buttons for 5 seconds, it can unlock the Buttons Lock Status.

3). Long Outage Indicator (Time of Day Indicator)

Time of Day can be reserved 3 days even electrical service is interrupted. If outage overrides 3 days, program setting are still reserved in the controller but Time of Day Indicator will flash to remind people to reset new Time of Day after power supply is recovery. It uses clock chip to count the time which is high precision.

4). Diagnosis Display Definitions and Correction

When a program error or controller faulty occurs, Digital Area will display error code and flash. The according definitions please refer to chapter 5.2. on Page 95.

5).Regeneration Start Type

A. Time Clock Type: The controller regenerates on the days or hours.

Regeneration by Days： The valve initiates regeneration every some days, minimal by 1day.

Regeneration by Hours： The valve initiates regeneration every some hours, minimal by 1hour.

B. Meter Type：

The control regenerates when the available volume of treated water drops to zero. Possible Settings are:

Meter Delayed: Setting [A-01]

The control regenerates on the day although the available volume of treated water drops to zero. Regeneration starts at the Regeneration Time.

Meter Immediate: Setting [A-02]

The control regenerates immediately when the available volume of treated water drops to zero (0).

Intelligent Meter Delayed: Setting [A-03]

Meter Delayed Regeneration type, but by setting Resin Volume, Feed Water Hardness, Regeneration Factor, the controller will calculate the System Capacity.

Intelligent Meter Immediate: Setting [A-04]

Meter Immediate Regeneration type, but by setting Resin Volume, Feed Water Hardness, Regeneration Factor, the controller will calculate the System Capacity.

Menu A-01（02.03.04）in program, set by buttons.

6).Signal Output Connector

There is signal output connector on main control board which is used for controlling external wiring. The middle one is common (COM), two beside ones are normal close (NC) and normal open (NO). The usage refers to chapter 3.5.2. on Page 69.

7).Interlock Function

Two or more Runxin valves can be connected together as a parallel or series system through Interlock Cable to avoid two or more valves start regeneration simultaneously.

A. As treated water is used, the Volume Remaining display counts down from the calculated system capacity to zero, then this occurs a Regeneration Cycle queues. If no other valve is in Regeneration the valve sends a lock command and starts a Regeneration Cycle.

B. If another valve is in Regeneration (i.e. the system is already locked) the valve remains In Service with Regeneration queued ("⧗" flashes) until other valves complete Regeneration. Then the system locks and Regeneration begins.

C. Each valve works following its program individually and interlocks when it starts regeneration.

Note: Use interlock function to realize valves supplying water simultaneously, but regeneration in sequenced. Interlock signal could be used in series systems.

8).Remote Handling Connector

This connector could receive external signal to control valve regeneration. The usage refers to chapter 3.5.2. on Page74.

9).Interval Backwash Times for Up-flow Regeneration Softener Valves

The flow direction of regeneration reagent is opposite of service's direction for up-flow regeneration. When UF valve regenerates, the prevent resin disorder layering. It doesn't need backwash in every regeneration time. (Depending on raw water quality)

Interval backwash times: F-02 two regenerations with one backwash which is to say three services with one backwash.

10). Washing Frequency for Automatic Filter Valve

When raw water quality is bad, even through lengthen the backwash time, the dirt will not be flushed out easily. It could set control valve to wash twice or more in a filter system, and more dirt will be flushed out and mineral bed will be cleaner.

Washing (Backwash and fast rinse) frequency: F-01 one service with two backwash and fast rinse. Working cycles will be:
Service→Backwash→Fast Rinse→Backwash→Fast Rinse→Service.

11). Interval Regeneration Day for Meter Type Valve (0~40 days)

This program step sets the maximum amount of time (in days) the unit can be in service without regeneration. For any Meter Delayed Types, Valve only regenerates after it reaches at maximum interval regeneration days although the remaining capacity is not dropped to zero. When it is set as zero, it means this parameter is invalid.

12). Regeneration Cycle Steps Time Range 0~99 Minutes

Wider application. GB1576 boiler water supplying regulation: The Cl^- content of outlet water should be no more 1.1 times of Cl^- content in inlet water. It needs fast rinse time of control valve could be adjustable to flush out the dirt.

13).Wide Range of Voltage

The adapter for Runxin control valves is 100～240V/50～60Hz.

2.4.Runxin Valves Overview

2.4.1.Manual Filter Valves Overview

New Model	Old Model	Inlet/ Outlet	Drain	Mounting Base	Riser Tube	Max Flow Rate m^3/h	Tank Size （in）	Remark
51101A	F52	1/2″F	1/2″F	M82×3	Φ16.5	1	6″～10″	
51101B	F56B	1/2″or 3/4″F	1/2″or 3/4″F	Tr95×6or φ98sawtooth thread	1.05″OD	1	10″Filter Housing	
51101C	F56C	1/2″or 3/4″F	1/2″or 3/4″F	Tr118×6or Tr110×6or	1.05″OD	1	20″Filter Housing	
51102	F56E	1/2″or 3/4″F	1/2″or 3/4″F	2.5″-8NPSM	1.05″OD	2	6″～10″	
51102C	F56EC	1/2″or 3/4″F	1/2″or 3/4″F		1.05″OD	2	6″～10″	Side-control
51104	F56A	1″F	1″F	2.5″-8NPSM	1.05″OD	4	6″～12″	
51204C	F56AC	1″F	1″F		1.05″OD	4	6″～12″	Side-control
51106	F56F	1″F	1″F		1″D-GB	6	6″～14″	
51110	F56D	2″F	1.5″F	4″-8UN	1.5″D-GB	10	10″～24″	
51215	F77BS	2″M	2″M	4″-8UN	1.5″D-GB	15	14″～30″	
51230	F78BS	DN65	DN65	DN80(T&B strainer)		30	24″～42″	

Structure Features	A.Hermetic head faces structure (F78BS adopts piston structure).
	B.No hard water bypass and operating can happen on service.
	C.Manual regeneration. Handel could be rotated and assembled within 180°.
Applications	A.Household Filter System（F52.F56A.F56B.F56C.F56E.F56F).
	B.A/C filter or sand filter system for RO pretreatment system.
	C.Swimming Pool Filter System (F56D.F77BS.F78BS).
	D.F56D, F77BS can be used for Iron/Manganese Removal system if side mount adapter is installed upside down.
Remark	A.Side mount adapter available for 2.5” and 4” base.
	B.Metal or plastic handle options(Except F77BS and F78BS).

Remark: F-Female thread M-Male thread OD-Outer diameter D-GB CN standard nominal diameter, same as below.

2.4.2.Manual Softener Valves Overview

New Model	Old Model	Inlet/ Outlet	Drain	Brine Line Connector	Mounting Base	Riser Tube	Max Flow Rate m^3/h	Tank Size（in）	Remark
61202	F64B	3/4″F	1/2″M	3/8″M	2.5″-8NPSM	1.05″OD	2	6″～12″	DF
61202C	F64BC	3/4″F	1/2″M	3/8″M			2	6″～12″	S/C DF
61104	F64A	1″F	1/2″M	3/8″M	2.5″-8NPSM	1.05″OD	4	6″～18″	DF
61204C	F64AC	1″F	1/2″M	3/8″M			4	6″～18″	S/C DF
61206	F64F	1.5″M	3/4″M	1/2″M	4″-8UN	1.25"D-GB	6	10″～24″	DF
61210	F64D	2″M	1″M	1/2″M	4″-8UN	1.5″D-GB	10	10″～30″	DF
61215	F77AS	2″M	1.5″M	3/4″M	4″-8UN	1.5″D-GB	15	24″～42″	DF
61240	F78AS	DN65	DN65	3/4″M	DN80（T&B strainer）		40	36″～63″	DF
71202	F64C	3/4″F	1/2″M	3/8″M	2.5"-8NPSM	1.05″OD	2	6″～12″	UF

Structure Features	A.Hermetic head faces structure (F78AS adopt piston structure).
	B.No hard water bypass and operating can happen on service.
	C.Start regeneration by manual，and handle can be rotated 360°cycle.
	D.F64BC, F64AC could be side-operated.

Appli-cations	A.Residential Softener System (F64A, F64AC, F64B, F64BC, F64C).
	B.Softener system for RO.
	C.Boiler softener system; Ion Exchange units.

Remark	A.Side mount adapter available for 2.5” and 4” Base.
	B.Metal or plastic handle options for F64A.

2.4.3.Automatic Filter Valves (LED) Overview

New Model	Old Model	Inlet/ Outlet	Drain	Mounting Base	Riser Tube	Max Flow Rate m^3/h	Tank Size （in）	Remark
53502	F71B1	3/4″M	3/4″M	2.5″-8NPSM	1.05″OD	2	6″～10″	
53604B	F107A3	1″F	1″F		1.05″OD	4	6″～12	Meter Type
53602B	F107B3	3/4″M	3/4″M		1.05″OD	2	6″～10″	Meter Type
53504S	F67B1	1″F	1″F	2.5″-8NPSM	1.05″OD	4	6″～12″	
53506S	F67B-A	1″F	1″F		1″D-GB	6	6″～14″	
53510	F75A1	2″M	2″M	4″-8UN	1.5″D-GB	10	10″～24″	
53518	F77B1	2″M	2″M	4″-8UN	1.5″D-GB	18	16″～36″	
53520	F95B1	2″M	2″M	2″M (T&B strainer)		20	20″～36″	Side-Mounted
53520B	F111B1	2″M	2″M	4″-8UN	2″D-GB	20	20″～36″	Top-Mounted
53530	F78B1	DN65	DN65	DN80(T&B strainer)		30	24″～42″	
53530B	F112B1							Improved
53540	F96B1	DN80	DN80	DN100T&B strainer		50	36″～48″	

Structure Features	A.Hermetic head faces structure (F78，F112 and F96 have piston structure). F112 is the improved type of F78.
	B.Indication of long time power cut, data saved after power off (Saved for three days).
	C.No hard water bypass in rising cycle.
	D.Remote handling connector b-01(02).
	E.Backwash, fast rinse frequencies setting F-00, service one time, backwash and fast rinse several times.
	F.Remote signal input connector.
	G.Interlock function for contemporary system and individual rising.
	H.F95B1 and F96B1 start rising only by days, others start rising by days or hours.
	I.F77, F95 and F111 have two valve cores, one is for controlling water in, the other is for out.
	J.F95B1 and F96B1 have meter type：53620 and 53650.
Applications	A.Residential Filter System (F71B, F67B).
	B.A/C filter or sand filter system for RO pretreatment system.
	C.F107A and F107B are used for Iron and manganese removal device.

2.4.4.Automatic Softener Valves (LED) Overview

New Model	Old Model	Inlet/ Outlet	Drain	Brine Line Connector	Mounting Base	Riser Tube	Max Flow Rate m^3/h	Tank Size（in）	Remark
63604S	F63B3	1″M	1/2″M	3/8″M	2.5″-8NPSM	1.05″OD	4	6″～18″	DF
63604	F63C3								DF
63602	F65B3	3/4″M	1/2″M	3/8″M	2.5″-8NPSM	1.05″OD	2	6″～12″	DF
73604S	F68A3	1″M	1/2″M	3/8″M	2.5″-8NPSM	1.05″OD	4	6″～18″	UF
73604	F68C3								UF
73602	F69A3	3/4″M	1/2″M	3/8″M	2.5″-8NPSM	1.05″OD	2	6″～12″	UF
73605	F92A3	1″M	NPT3/4	3/8″M	2.5″-8NPSM	1″D-GB	6	6″～24″	UF
63610	F74A3	2″M	1″M	1/2″M	4″-8UN	1.5"D-GB	10	10″～30″	DF
63615	F99A3	2″M	1.5″M	3/4″M	4″-8UN	1.5"D-GB	15	14″～36″	DF
63618	F77A3						18	14″～42″	DF
63620	F95A3	2″M	1.5″M	3/4″M	2″M (T&B strainer)		20	24″～48″	DF
63620B	F111A3	2″M	1.5″M	3/4″M	4″-8UN	2″D-GB	20	24″～48″	Top-Mounted
63640	F78A3	DN65	DN65	3/4″M	DN80(T&B strainer)		40	24″～60″	DF
63640B	F112A								Improved
63650	F96A3	DN80	DN80	3/4″M	DN100(T&B strainer)		50	48"～63"	DF

Structure Features	A.Hermetic head faces structure (F78, F112 and F96 have piston structure). F112 is the improved type of F78.
	B.Indication of long time power cut, data saved after power off (Saved for three days).
	C.No hard water by pass in regeneration cycle.(Except F92).
	D.Signal output connector, remote handling connector could receive passive signal.
	E. Interlock function for contemporary system and individual regeneration.
	F.F77, F78, F95, F96, F111 and F112 adopt ball valve for brine drawing and refill.
	G..Time clock regeneration option: by days or by hours; Meter valve regeneration option: Meter delayed(A-01), Meter immediate(A-02), Intelligent meter delayed(A-03), Intelligent meter immediate(A-04).
	I.Time available:0-99 minutes per cycle; Meter range: F63.F65.F68.F69(0～99.99m^3), F74(0～999.9m^3), F78(0～9999m^3).

	J.Up-flow valve interval backwash times setting F-00，service several times, but backwash one time.
	K.Meter type valve max interval regeneration days setting (0～40days).
	L.F77, F95 and F111 have two valve cores, one is for controlling water in and brine drawing, the other is for out.
Applications	A.Residential Softener Systems (F63, F65, F68, F69).
	B.Softener for RO pretreatment System.
	C.Boiler Softening System, Ion-exchange system.
Remark	A.The model with a “S” means the valve with manual operation.
	B.F77, F78 and F95 brine refilled while service, brine refilling controlled by electronic ball valve.
	C.F63, F65, F68 and F69 have a variety of appearances optional.
	D.Controller for F74 can be top or side mounted.
	E. F95A can be top mounted (F111A).
	F.The above products have time clock type, such as 63504 (Old model F63C1).

2.4.5.One valve for Twin Tanks, Alternating Regeneration Valve Overview

New Model	Old Model	Inlet/ Outlet	Drain	Brine Line Connector	Mounting Base	Riser Tube	Max Flow Rate m^3/h	Tank Size （in）	Remark
17603	F73	1″M	1/2″M	3/8″M	2.5″-8NPSM	1.05″OD	3.5	6″～14″	DF/UF
17606	F98A	1″M	1/2″M	3/8″M	1″M (T&B strainer)		6	20″～24″	DF
17610	F88A	1.5″M	1″M	1/2″M	1.5″M T&B strainer)		10	20″～30″	DF
93606	F98C	1″M	1/2″M	3/8″M	1″M (T&B strainer)		6	14″～18″	Floating Bed
93610	F88C	1.5″M	1″M	1/2″M	1.5″M (T&B strainer)		10	18″～20″	

Structure Features	A.Ceramic valve core, hermetic head faces structure.
	B.One valve on twin tanks, one is on service and the other is standby.
	C.Regeneration tank standby after exchange, fast rinse before service.
	D.Regeneration start type: Meter type only.
	E.Two valve cores, one is for tanks switching, the other is for regeneration.
	F.It is side-mounted and uses soft water for regeneration, except F73.
Applications	Continuous Soft Water Supplying.

2.4.6.Residential Valves Overview

New Model	Old Model	Inlet/ Outlet	Drain	Brine Line Connector	Mounting Base	Riser Tube	Max Flow Rate m^3/h	Tank Size（in）	Remark
82602	F79A-LCD	3/4″M	1/2″M	3/8″M	2.5″-8NPSM	1.05″OD	2	6″～12″	
82602B	F79B-LCD	3/4″M	1/2″M	3/8″M			2	6″～12″	HWB
82604	F82A-LCD	1″M	1/2″M	3/8″M			3.5	6″～16″	
82604B	F82B-LCD	1″M	1/2″M	3/8″M			3.5	6″～16″	HWB
52502H	F71D1	3/4″M	1/2″M	/	2.5″-8NPSM	1.05″OD	2	6″～10″	Filtration
52504H	F67D1	1″M	1/2″M	/			4	6″～″12	Filtration
62602H	F65D3	3/4″M	1/2″M	3/8″M			2	6″～12″	DF
62604H	F63D3	1″M	1/2″M	3/8″M			4	6″～18″	DF
72602H	F69D3	3/4″M	1/2″M	3/8″M			2	6″～12″	DF/UF
72604H	F68D3	1″M	1/2″M	3/8″M			4	6″～18″	DF/UF
82602H	F79D3	3/4″M	1/2″M	3/8″M			2	6″～12″	DF/UF
82604H	F82D3	1″M	1/2″M	3/8″M			3.5	6″～16″	DF/UF
82602E	F105A3	3/4″M	1/2″M	3/8″M	2.5″-8NPSM	1.05″OD	2	6″～12″	DF/UF
82604E	F97A3	3/4″M	1/2″M	3/8″M			4	6″～18″	DF/UF

Structure Features	A.LCD display, intuitional and convenient.
	B.Indication of long time power cut, data saved after power off (Saved for three days).
	C.Up-flow valve interval backwash times setting F-00，service several times, but backwash one time.
	D.Down-flow or Up-flow option can be set in the program, and also can mix hard water to the system if required not too soft water.
	E.Disinfection connector. Electrolyze brine in regeneration to disinfect.
	F.Salt Shortage Alarm connector.
	G.D series valve has foreground and background operation to prevent incorrect operation.
	H.F105 and F97 use soft water for brine refilling, both UF and DF option, have vacation mode and dry brine mode.

Applications	A.Residential Softener or the Whole House Water Filter.
	B.RO Pre-treatment Softener.

2.4.7.P Series Control Valve Overview

New Model	Old Model	Inlet/ Outlet	Drain	Brine Line Connector	Mounting Base	Riser Tube	Max Flow Rate m^3/h	Tank Size (in)	Remark
63502P	F71P1	3/4″M	3/4″M	/	2.5″-8NPSM	1.05″OD	2	6″～10″	Filter
63504P	F67P1	1″F	1″F	/			4	6″～12″	Filter
63602P	F65P3	3/4″F	1/2″M	3/8″M			2	6″～12″	DF
63604P	F63P3	1″M	1/2″M	3/8″M			4	6″～18″	DF
73602P	F69P3	3/4″F	1/2″M	3/8″M			2	6″～12″	UF
73604P	F68P3	1″M	1/2″M	3/8″M			4	6″～18″	UF

Structure Features	A.Locate by optcupler, more stable performance. F63P, F67P and F68P adopt the same locating board, while F65P, F69P and F71P use the same locating board. They all use the same main control board.
	B.Hermetic head faces structure，no hard water bypass when regeneration cycle.
	C.When electrical service recover, program run one cycle then locate at the previous position.
	D.Cheaper and simpler.

Applications	A.Residential Softener or Filter system.
	B.Boiler Softener, Ion-Exchange Equipment.

2.4.8.Disc Filter Overview

New Model	Inlet/ Outlet	Drain	Filtering Accuracy	Working Pressure	Max. Flow Rate(m^3/h)
45006	1″M	3/4″M	150μm	0.15~0.6MPa	6
45012	1.5″M	3/4″M	150μm	0.15~0.6MPa	12
45020	2″M	3/4″M	150μm	0.15~0.6MPa	20
45040	2.5″M	3/4″M	150μm	0.15~0.6MPa	40

Structure Features	A.Filter Disc can be repeated to wash and use, and be disassembled easily.
	B.It has storage space for filtered dirts and flush dirts directly by opening the draining valve.
	C.Reliable and low operating cost, long service life.

Applications	Installed on the inlet of Filters or Softeners.

2.4.9.Runxin Valves for Floating Bed Systems Overview

New Model	Old Model	Inlet/ Outlet	Drain	Brine Line Connector	Mounting Base	Riser Tube	Max Flow Rate m^3/h	Tank Size（in）	Remark
93604	F83A3	1″M	1/2″M	3/8″M	2.5"-8NPSM	1.05″OD	4	6″～14″	Hard Water Regeneration
93606	F98C	1″M	1/2″M	3/8″M	1″M (T&B strainer)		6	14″～18″	One Valve on Twin Tanks
93610	F88C	1.5″M	1″M	1/2″M	1.5″M (T&B strainer)		10	18″～20″	Continuous Soft Water Supplying
91215	F77CS	2″M	1.5″M	3/4″M	4″-8UN	1.5″D-GB	15	20″～30″	Hard Water Regeneration
93620	F95C3	2″M	1.5″M	3/4″M	2″M (T&B strainer)		20	24″～36″	Soft Water Regeneration
91240	F78CS	DN65	DN65	3/4″M	DN80(T&B strainer)		40	36″～48″	Hard Water Regeneration
93640	F78C3	DN65	DN65	3/4″M	DN80(T&B strainer)		40	36″～48″	Soft Water Regeneration

Structure Features	A.Hermetic head faces structure (F78 and F96 have piston structure)
	B.One valve on twin tanks, one in service, the other standby.(F88 and F98)
	C.F83, F77CS and F78CS are hard water for regeneration, others are soft water for regeneration.
	D.Adopt the technological process of up-flow service --brine draw--brine refill--fast rinse.
Applications	Suitable for high hardness(Less than 15mmol/L) water treatment applications.

2.4.10.Runxin Valves for Mixed Bed Systems Overview

New Model	Inlet	Outlet	Drain	Top Strainer	Alkaline /Acid	Air In	Air Out	Max. Flow Rate m^3/h	Tank Size（in）
15702	3/4″F	3/4″M	3/4″M	3/4″M	3/8″M	1/2″F	3/4″F	2	6″～12″
15704	1″F	1″M	3/4″M	1″M	3/8″M	1/2″F	3/4″F	4	6″～18″

Structure Features	A.LED display, remote signal input, keyboard lock and other functions.
	B.Use first or second grade deminerlized water to regenerate could be switched in program.
	C.Multi-times of connect and disconnect water at the end of backwash to improve the effect of layering of anion and cation resin.
	D.No water used, valve could wait in service position. If power cut, valve goes to fast rinse after power on.
	E.Resistivity on outlet. When outlet water is disqualified, it will regenerate automatically.
Applications	Mixed Cation/Anion Resin Bed Desalination System.

2.4.11.Hardness Online Monitoring Instrument Overview

Model	Inlet	Outlet	Sampling Connector	Flow Meter Inlet	Flow Meter Outlet
44710	Ø6 Gas-type quick fitting	Ø8 Gas-type quick fitting	Ø6 Gas-type quick fitting	1″F	1″M

Structure Features	A.Using constant volume for through-holes and mixing chamber, good consistency for water sample testing.
	B.Several time modes optional： a).It can adjust the monitoring time according to the water quality：0-300minutes；b).Input the resin volume, water hardness and the average water consumption per hours, the system will calculate the operate time automatically.
	C.Easy to set up: Only need to set the test interval time (Detection period)，others set as the default time.
	D.The system will alarm when the reagent exhausted and turn the time mode program by hours until add reagent.

Applications	Test treated water hardness on outlet of softener valve, depending on the test result to control the softener valve regeneration. Suitable for softening water treatment system which has a high requirement for treated water application, steam boiler and hot water boiler application.

2.4.12.Bypass Valve Overview

New Model	Old Model	Inlet/ Outlet	Valve Size	Inlet Outlet Distance	Remark
41104	F70A	1″M	1″F	50mm	For F63/F68
41102	F70B	3/4″M	3/4″M	65/70mm adjustable	For F65/F69
41204	F70C	1″M	1″F	50mm	For F63/F68/F82
41202	F70D	3/4″M	3/4″M	50mm	For F79
41206	F70F	1″M	NPT 1″ or 1″M	50mm	For F92/F82

Structure Features	A.4 positions: Partly bypass, Bypass, Close, Service.
	B.Figure represents bypass volume.
	C.If install flow meter inside it and connect with control valve, then it can revert it to a meter type valve.
Applications	A.Bypass required raw water when the softener is on maintenance.
	B.Bypass required raw water when softener is on regeneration.
	C.It can mix raw water to system to supply not very soft water.
Remark	When operate F70B, two handles should be operated at same position (when inlet handle at position 1, while outlet handle at position 1 too). But when inlet handle at bypass and outlet handle at service, then it represents closed position which means no water come in.

2.4.13.Deaerator Valve Overview

Model	Inlet	Outlet	Drain	Top Distributor	Left and Right Chamber Connector	Max. Flow Rate m^3/h	Tank Size (in)
13504	1″ M	1″ M	1″ M	1″ M	1″ M	3.5	10″～18″

Structure Features	A.LED display, remote signal input, keyboard lock and other functions.
	B.Several time modes optional: Operate by Day, Hour, Point (Two, Three, Four points)
	C.It has two type of water for backwash: oxygen removal water or hard water.
	D.There are left and right chambers to increase the backwash flow rate.
Applications	Steam boiler system and double chambers sponge iron deoxidized system.

2.4.14.Cell Phone Control Valve Overview

Mainly used valve models ： F79/F82/F74/F75/F78

Adopt different main control board, control board has a GSM card port, can be installed the GSM card.

Structure Features	A.It can inquire or modify the parameter of valves by mobile phone or tablet PC.
	B.It can remotely control the valve to switch to the next working position.
	C.It will take a feedback to the mobile phone or tablet PC if the valve has an error.
Applications	F79 and F82 mainly used in residential softener system.
	F74, F75 and F78 mainly used in industrial filtration and softener system.

Note: The Inlet and Outlet Direction of Each Runxin Valve

Inlet/Outlet Direction	Model
Left In and Right Out	F56A, F56D, F56E, F56AC, F56EC, F64A, F64B, F64C, F64D, F64F, F64AC, F64BC, F74A, F75A, F78A/B, F96A, F99A, F95C
Right In and Left Out	F56F, F67B, F71B, F78C, F88C, F95A/B, F111A/B, F107A/B
Rear In and Out	F63B, F65B, F67D, F68A, F69A, F71D, F73A, F77, F79, F82, F83, F92