



Multi-functional Flow Control Valve for Water Treatment Systems

83602 (Old Model No.: F79A) 83602B (Old Model No.: F79B)

83504/83604 (Old Model No.: F82A1/F82A3) 83504AB/83604AB (Old Model No.: F82AG1/F82AG3) 83504B/83604B (Old Model No.: F82B1/F82B3) 83504BB/83604BB (Old Model No.: F82BG1/F82BG3)

Instruction Manual





Please read this manual in details before using this valve and keep it properly in order to consult in the future 0WRX.466.514

Before the valve put into use, please fill in the below content so as to help us to refer in the future.

The Program Type Setting (Operation by professional)

When all symbols light on, press and hold and buttons for 5 seconds to enter the menu of valve model selection. Please set the program type in accordance with the product type.

Softener System Configuration
Tank Size: Diamm; Heightmm;
Resin VolumeL; Brine Tank CapacityL;
Hardness of Raw Watermmol/L;
Pressure of Inlet WaterMPa;
Control Valve Model; Number;
The Specification of Drain Line Flow Control;
Injector No
Water Source: Ground-water□ Filtered Ground-Water □ Tap Water □ Other
Parameter Set

Parameter	Unit	Factory Default	Actual Value
Control Mode A-01(02/03/04/05/11/12/03/14/15/21)	/	A-01	
Unit Mode HU-01 (A-01/02/03)	/	HU-01 (m ³)	
Regeneration Time (A-01/03/04/11/13/14/21)	/	02:00	
Rinsing Frequence (A-21)	/	F-00	
Interval Backwash Times (A-11/12/13/14/15)	/	F-00	
Water Treatment Capacity (A-01/02/11/12)	m³	10	
Service Days (A-04/14/21)	D	03	
Service Hours (A-05/15)	Н	20	
Resin Volume (A-03/13)	L	50	
Feed Water Hardness (A-03/13)	mmol/L	1.2mmol/L	
Regeneration Factor (A-03/13)	/	0.65	
Backwash Time	min.	10:00	
Brine & Slow Rinse Time	min.	60:00	
Brine Refill Time	min.	05:00	
Fast Rinse Time	min.	10:00	
Interval Regeneration Days (A-01/02/03/11/12/13)	D	30	
Output Mode b-01 (02)	/	b-01	

[●] If there is no special requirement when product purchase, we choose 3# drain line flow control and 6305 injector for the F79 standard configuration. We choose 5# drain line flow control and 6309 injector for the F82 standard configuration.

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Notice

- To ensure normal operation of the valve, please consult with professional installation or repairing personnel before use it.
- If there are any of pipeline engineering and electric works, there must be finished by professional at the time of installation.
- Do not use the control valve with the water that is unsafe or unknown quality.
- Depending on the changing of working environment and water requirement, each parameter of softener should be adjusted accordingly.
- When the water treatment capacity is too low, please check the resin. If the reason is shortage of resin, please add; if the resin turns to reddish brown or broken, please replace.
- Test water periodically to verify that system is performing satisfactorily.
- Ensure that there is solid salt all the time in the brine tank in the course of using, when this valve is used for softening. The brine tank should be added the clean water softening salts only, at least 99.5% pure, forbidding use the small salt.
- Do not put the valve near the hot resource, high humidity, corrosive, intense magnetic field or intense librations environment. And do not leave it outside.
- Forbidden to carry the injector body. Avoid to use injector body as support to carry the system.
- Forbidden to use the brine tube or other connectors as support to carry the system.
- Please use this product under the water temperature between $5 \sim 50 \,^{\circ}\text{C}$, water pressure $0.15 \sim 0.6 \text{MPa}$. Failure to use this product under such conditions voids the warranty.
- If the water pressure exceeds 0.6Mpa, a pressure reducing valve must be installed before the water inlet. While, if the water pressure under 0.15MPa, a booster pump must be installed before the water inlet.
- It is suggested to install PPR pipe, corrugated pipe or UPVC pipe, instead of TTLSG pipe.
- Do not let children touch or play, because carelessness operating may cause the procedure changed.
- When the attached cables of this product and transformer are changed, they must be changed to the one that is from our factory.

1. Product Overview

1.1. Main Application & Applicability

Used for softening or demineralization water treatment systems

Be suitable for

Residential softening system

Ion exchange equipment

Boiler softening water system

RO pretreatment softening system, etc.

1.2 Product Characteristics

➤ Simple structure and reliable sealing

It adopts hermetic head faces with high degree pottery and corrosion resistance for opening and closing. It combines with Service, Backwash, Brine & Slow Rinse, Brine Refill and Fast Rinse.

➤ Manual function

Realize regeneration immediately by pushing manual button at any time.

➤ 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.

►LED dynamic screen display

The stripe on dynamic screen flash, it indicates the control valve is in service, otherwise, it is in regeneration cycle.

▶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.

Can be installed outside for F79 with weather cover.

>With hard water bypass and no hard water bypass two choices.

No hard water bypass refers to the control valve no water pass when valve in regeneration. Model: A for no hard water bypass (No raw water flow out from outlet when in regeneration process); B for with hard water bypass. (With raw water flow out from outlet when in regeneration process)

>With partial bypass function

When valve in service, by adjusting bypass screw can let part of raw water flow into the outlet without being softened.

>Down-flow regeneration, up-flow regeneration and filter can be implemented with a valve.

By program selection to choose following modes

Mode	Name	Instruction
A-01	Down-flow regeneration, Meter delayed	Down-flow regeneration, regenerate on the day although the available volume of treated water drops to zero (0). Regeneration starts at the regeneration time.
A-02	Down-flow regeneration, Meter immediate	Down-flow regeneration, regenerate immediately when the available volume of treated water drops to zero (0).
A-03	Down-flow regeneration, Intelligent meter delayed	Down-flow regeneration, meter delayed regeneration type, but by setting resin volume, feed water hardness, regeneration factor, the controller will calculate the system capacity.
A-04	Down-flow regeneration by days	Down-flow regeneration, regenerate when the service days reach to zero (0). Regeneration starts at the regeneration time.
A-05	Down-flow regeneration by hours	Down-flow regeneration, regenerate when time shows up zero (0).
A-11	Up-flow regeneration, Meter delayed	Up-flow regeneration, regenerate on the day although the available volume of treated water drops to zero (0). Regeneration starts at the regeneration time.
A-12	Up-flow reg- eneration, Me- ter immediate	Up-flow regeneration, regenerate when time shows up zero (0).
A-13	Up-flow regeneration, intelligent meter delayed	Up flow regeneration, meter delayed regeneration type, but by setting resin volume, feed water hardness, regeneration factor, the controller will calculate the system capacity.
A-14	Up-flow regeneration by days	Up-flow regeneration, regenerate when the service days reach to zero (0).
A-15	Up-flow regeneration by hours	Up-flow regeneration, regenerate when time shows up zero (0).
A-21	Filter type	Filter type, filter when the service days reach to zero (0).

>Interval backwash times (Only suitable for up-flow regeneration type)

It could set up interval backwash times for up-flow type A-11, 12, 13, 14, 15, which means several times of services but one time of backwash. The setting of interval backwash time is depending on the local water turbidity. (The lower the turbidity is, the longer of the interval backwash time can be set)

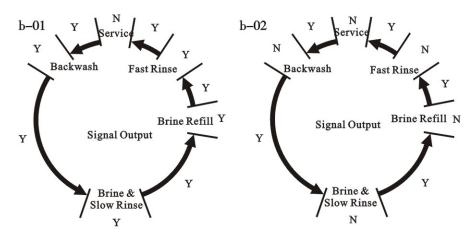
≻Rinsing frequency

It could set up rinsing frequency when selection of filter mode A-21, which means several times of backwash and fast rinse but one time of service (Need set). In this working mode, the brine line should be blocked. And the drain the flow control should be took off.

>Signal output

There is a signal output connector on main control board. It is for controlling external wiring (Refer to Figure from Figure 3-1 to Figure 3-8).

There are two kinds of output modes.b-01 Mode: Turn on start of regeneration and shut off end of regeneration; b-02 Mode: Signal available only intervals of regeneration cycles and in service.



➤ Remote handling input

This connector can receive external signal, used together with PLC, and computer etc. to control the valve. (Application refer to Figure 3-11)

Disinfection connector (It is necessary to separately matching with a disinfection device)

The valve has the disinfection connector, which can supply DC5V/200mA power output under the Brine Draw status. It can make a part of brine water electrolyzed, producing hypochlorous acid to sterilize and disinfect the resin.

> Connector of salt shortage alarm (It is necessary to separately matching with a gravity meter.)

The connector is jointed with gravity meter. When the brine tank is shortage of salt, the system will give the alarm and remind user to add the salt in time. (Wiring refer to P17)

>Maximum interval regeneration days

In mode A-01/02/03 or A-11/12/13, under the situation of service reaching the setting days and the volume not yet, it could enter into regeneration process forcibly when current time is the same as regeneration time.

>All parameters can be modified

According to the water quality and usage, the parameters in the process can be adjusted.

1.3 Service Condition

Runxin Valve should be used under the below conditions:

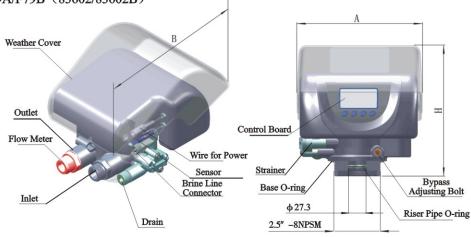
Items		Requirement
Working	Water pressure	0.15MPa ~ 0.6MPa
conditions	Water temperature	5℃ ~ 50℃
Environment temperature		5℃ ~ 50℃
Working environment	Relative humidity	≤95% (25℃)
	Electrical facility	AC100 ~ 240V/50 ~ 60Hz
	Water turbidity	Down-flow regeneration < 5FTU; Up-flow regeneration < 2FTU
	Water hardness	First Grade Na ⁺ <6.5mmol/L: Second Grade Na ⁺ <10mmol/L
Inlet water quality	Free chlorine	<0.1mg/L
	Iron2 ⁺	<0.3mg/L
	CODMn	<2mg/L (O ₂)

In the above table, First Grade Na⁺ represents First Grade Na⁺ Exchanger. Second Grade Na⁺ represents Second Grade Na⁺ Exchanger.

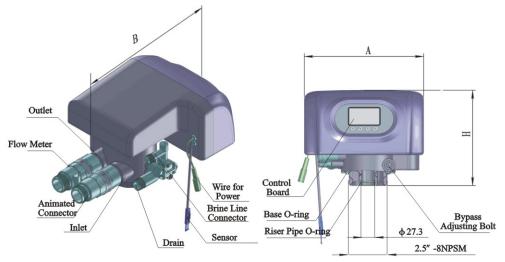
- ●When the water turbidity exceeds the conditions, a filter should be installed on the inlet of control valve.
- ●When the water hardness exceeds the conditions, the outlet water hardness will hardly reach the requirement of boiler feed water (0.03 mmol/L). It is suggested to adopt second grade softener.

1.4 Product Structure and Technical Parameters

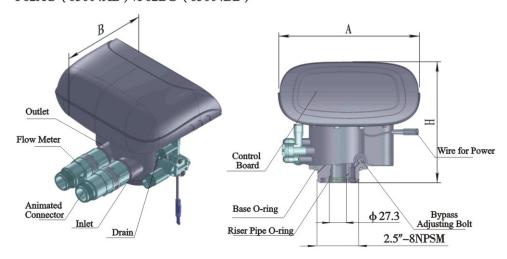
A. Product dimension (The appearance is just for reference. It is subjected to the real product.) F79A/F79B (83602/83602B)



F82A (83604) /F82B (83604B)



F82AG (83604AB) /F82BG (83604BB)



Model	A (mm) max	B (mm) max	H (mm) max	
F79A/F79B	186	230	200	
F82A/F82B	220	260	180	
F82AG/F82BG	240	200	205	

B. Technical parameter

Control valve are suitable for the power adapter output: DC12V \ 1.5A

	C	onnecto	or Size			Water Capacity		
Model	Inlet/ Outlet	Irain	Brine Line Connector	Base	Riser Pipe	m³/h @0.3MPa	Remark	
F79A	2/4//35	1 /0 // > /	2/0//34	2-1/2"-	1.05"OD	2	No raw water when regeneration	
F79B	3/4"M	1/2"M	3/8" M	8NaPSM	(26.7mm)	2	With raw water when regeneration	
F82A	1 " > 6	1/0//34	2/0//34	2-1/2"-	1.05"OD	2.5	No raw water when regeneration	
F82B	1"M	1/2" M	3/8"M	8NPSM	(26.7mm)	3.5	With raw water when regeneration	
F82AG	1 "> 6	1/0//3/	2/0//34	2-1/2"-	1.05"OD		No raw water when regeneration	
F82BG	1"M	1/2" M	3/8"M	8NPSM	(26.7mm)	3.5	With raw water when regeneration	

Remark: There are time clock type and meter type of F82 series.

M---Male Thread F---Female Thread OD---Outer Diameter

1.5. Product Install

A. Install notice

Before installation, read all those instructions completely. Then obtain all materials and tools needed for installation.

The installation of product, pipes and circuits, should be accomplished by professional to ensure the product can operate normally.

Perform installation according to the relative pipeline regulations and the specification of Inlet, Outlet, Drain and Brine Line Connector.

B. Device location

- (1) The filter or softener should be located close to drain.
- ②Ensure the unit is installed in enough space for operating and maintenance.
- ③Brine tank need to be close to softener.
- (4) The unit should be kept away from the heater, and not be exposed outdoor. Sunshine or rain will cause the system damage.
- ⑤ Avoid to install the system in circumstance of Acid/Alkaline, magnetic or strong virbration, because above factors will cause the system disorder.
- ⑥Do not install the filter or softener, drain pipeline in circumstance which temperature may drop below 5 °C, or above 5 °C.
- ⑦One place is recommended to install the system which cause the minimum loss in case of water leaking.

- C. Pipeline installation (Example as F82)
- (1)Install control valve
- a. As the Figure 1-1 shows, select the riser pipe with 26.7mm OD, glue the riser pipe to the bottom strainer and put it into the resin tank, cut off the exceeding tube out of tank top opening. Plug the riser tube in case of mineral entering.
- b. Fill the resin to the tank, and the height is accordance with the design code.
- c. Install the top strainer to the valve.
- d. Insert the riser tube into control valve and screw tight control valve.

Note:

- The length of riser tube should be neither higher 2mm nor lower 5mm than the tank top opening height, and its top end should be rounded to avoid damage of O-ring inside the valve.
- Softener
 Valve

 Base O-ring
 Riser Pipe
 O-ring

 Top Strainer

 Riser Pipe

 Bottom
 Strainer

Figure1-1

- Avoid floccules substance together with resin to fill in the resin tank.
- Avoid O-ring inside control valve falling out while rotating it on the tank.
- ②Install animated connector

As Figure 1-2 shows, put the sealing ring into nut of animated connector, and screw in water inlet. ③Install flow meter

As Figure 1-2 shows, put the sealing ring into nut of flow meter, screw in water outlet; insert the sensor into flow meter.

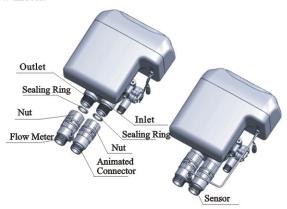


Figure 1-2

4 Pipeline connection

a. As Figure 1-3 shows, install a pressure gauge in water inlet.

b. Install valve A, valve B, valve C and valve D in the inlet and outlet pipeline. The valve D is sampling valve (Or adopt F70C/F70D bypass valve). (Can remove the check valve) c. Inlet pipeline should be in parallel with outlet pipeline. Support inlet and outlet pipeline with fixed holder.

Note:

- •If making a soldered copper install ation, do all sweat soldering before connecting pipes to the valve. Torch heat will damage plastic parts.
- •When turning threaded pipe fittings onto plastic fitting, use care not to cross thread or broken valve.

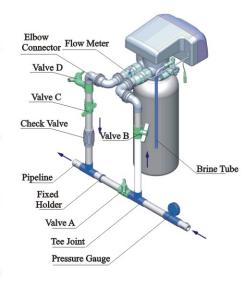


Figure 1-3

● If the valve belongs to time clock type or F79, there are no step ② and③

⑤Install drain pipeline

- a. As the Figure 1-4 shows, slide the drain hose connector into drain outlet.
- b. Insert drain line flow control into drain outlet
- c. Screw drain hose connector into drain outlet, and lock it.
- d. Locate the drain hose well as the Figure 1-4 shows.

Note:

- Control valve should be higher than drain outlet, and be better not far from the drain hose.
- ●Be sure not connect drain with sewer, and leave a certain space between them, avoid wastewater be absorbing to the water treatment equipment, such as showed in the Figure 1-4.





Figure 1-4

- 6 Connect brine tube
- a. As Figure 1-5 shows, slide 3/8" brine tube hose connector over end of brine tube.
- b. Insert tube bushing into the end of brine tube.
- c. Insert the red brine line flow control into valve brine line connector. (Attention: Cone side of control should face into valve)
- d. Tighten brine draw hose connector onto brine line connector.
- e. Connect the other end of brine tube with the brine tank. (The liquid level controller and air-blocker should be installed in the brine tank.)

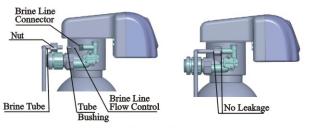
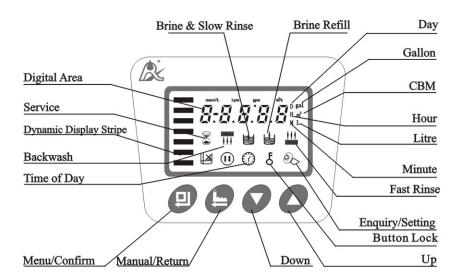


Figure 1-5

Remark: The brine tube and drain pipeline should not be bended or plugged.

2. Basic Setting & Usage

2.1 The Function of PC Board



A.	()	Time	of	day	in	di	cat	to

- CLight on, display the time of day.
- "12: 12" flash, remind you to reset the time of day if electrical service interrupted 3 days or more (If electrical service interrupted within 3 days, it doesn't need to reset the time.)

B. 5 Button lock indicator

• E Light on, indicate the buttons are locked. At this moment, press any single button will not work (Under any status, no operation in one minute, E will light on and lock the buttons)

Solution: Press and hold both \bigcirc and \bigcirc for 5 seconds until the \bigcirc light off.

C. Program mode indicator

- S Light on, enter program display mode. Use or to view all values.
- S Flash and enter program set mode. Press or to adjust values.

D. Manu/Confirm button

- In menu mode, press ② and ② light on , then enter program display mode to view all values.
- In program display mode, press ② and ② light on, then enter program set mode to adjust all values.
- Press ② after all program are set, and then the voice "Di" means all setting are success and return program display mode.

E. Manual/Return button

- Press in any status, it can proceed to next step. (Example: Press in Service status, it will start regeneration cycles instantly; press while it is in Backwash status, it will end backwash and go to Brine &Slow Rinse at once.)
- Press in program display mode, and it will return in 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.

F. Up 🔼 and Down 🕡

- In program display mode, press or to view all values.
- In program set mode, pres or to adjust values.
- Press and hold both ② and ② for 5 seconds to lift the Button Lock status.

2.2. Basic Setting & Usage

A. Parameter specification

Function	Indi- cator	Factory Default	Parameter Set Range	Instruction		
Time of Day	0	Rran- dom	00: 00 ~ 23:59	Set the time of day when use; ": " flash.		
			A-01	Down-flow regenerate on the day although the available volume of treated water drops to zero (0). Regeneration starts at the regeneration time		
			A-02	Down-flow regenerate immediately when the available volume of treated water drops to $zero(0)$.		
			A-03	Meter Delayed Down-flow Regeneration type, but by setting Resin Volume, Feed Water Hardness, Regeneration Factor, the controller will calculate the System Capacity. Regeneration mode same as A-01.		
Control		A-01	A-04	Down-flow Regeneration, by days type, regeneration starts only on the regeneration time while service days left zero (0).		
Model	A-01	A-01	A-05	Down-flow Regeneration, by hours, regenerate immediately when time occurs zero (0).		
			A-11	Up-flow Regeneration Meter Delayed type, regeneration mode is the same with A-01.		
					A-12	Meter Immediately Regeneration Type, regeneration mode is the same with A-02.
			A-13	Intelligent Down-flow Regeneration Meter Delayed, regeneration mode is the same with A-03.		
			A-14	Down-flow Regeneration by days type, regeneration mode is the same with A-04.		
			A-15	Down-flow Regeneration by hours type, regeneration mode is the same with A-05.		
			A-21	Filter Type, regeneration starts only on the regeneration time while service days left zero(0).		
Unit Mode	HU-01	HU-01	01, 02, 03	01-m³; 02-gal; 03-L		
Service Days		1-03D	0 ~ 99 Days	Only for Time Clock Type, regeneration by days.		
Service Hours	2	1-20H	0 ~ 99 Hours	Only for Time Clock Type, regeneration by hours		
Regene- ration Time	02:00	02:00	00: 00 ~ 23:59	Regeneration time; ": " light on.		
Interval Backwash Times	F-00	00	0~20	Interval backwash times. For example, F-01 indicates service 2 times, backwash 1 time (Only for A-11/12/13/14/15).		

Rinsing Frequency	F-00	00	0~20	Rinsing added time. For example. F-01 indicates rinse 2 times, service 1 time (Only for A-21)	
Resin Volume	50L	50L	5 ~ 500L	Resin volume in brine tank (L), for A-03/13	
Feed Water Hardness	Yd1.2	1.2	0.1 ~ 9.9	Feed Water Hardness (mmol/L), for A-03/13	
Exchange Factor	AL.65	0.65	0.30 ~ 0.99	Relate to the raw water hardness. When hardness is higher, the factor is smaller. For A-03/13	
Water Treatment Capacity		10m³	0 ~ 99.99m³	Water treatment capacity in one circle (m³), for A-01/02/11/12	
Backwash Time	* * *	10Min.	0 ~ 99:59	Backwash time (Minute)	
Brine & Slow Rinse Time		60Min.	0 ~ 99:59	Brine & slow rinse time (Minute)	
Brine Refill Time		5Min.	0 ~ 99:59	Brine refill time (Minute)	
Fast Rinse Time	† † †	10Min.	0 ~ 99:59	Fast rinse time (Minute)	
Maximum Interval Regene- ration Days	H-30	30	0 ~ 40	Regenerate on the day even through the available volume of treated water do not drop to zero (0).	
Output Control Mode	b-01	01	01 or 02	Mode 01: Signal turn on start of regeneration and shut off end of regeneration. (Connection refer to the Figure P6) Mode 02: Signal available only intervals of regeneration cycles and in service. (Connection refer to the Figure P6)	

B. Process Display (Take A-01 as example)

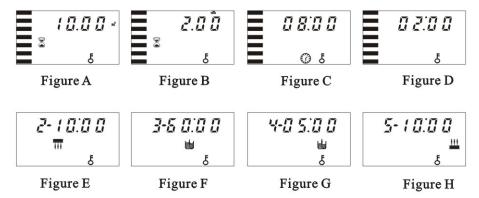


Illustration:

- In Service status, the figure shows A/B/C/D; In Backwash status, it shows figure E/C; In Brine& Slow Rinse status, it shows F/C; In Brine Refill status, it shows figure G/C; In Fast Rinse status, it shows figure H/C. In each status, every figure shows 15 seconds in a cycle.
- Above displays are taking the Meter Type for example. For the Time Clock Type, it shows the rest days or hours, such as 1-03D or 1-10H.
- The display screen will only show "-00-" when the electrical motor is running.
- The time of day figure flashes continuously, such as "12: 12" flashes, it indicates long outage of power. It reminds to reset the time of day.
- The display will show the error code, such as "-E1-", when the system is in error.
- ■Working process: Service → Backwash → Brine & Slow Rinse → Brine Refill → Fast Rinse → Service

C. Usage

After being accomplished installation, parameter setting and trial running, the valve could be put into use. In order to ensure the quality of outlet water can reach the requirement, the user should complete the below works:

①Ensure that there is solid salt all the time in the brine tank in the course of using when this valve is used for softening. The brine tank should be added the clean water softening salts only, at least 99.5% pure, forbidding use the small salt and iodized salt.

②Test the outlet water and raw water hardness regularly. When the outlet waterhardness is unqualified, please press the and the valve will temporily regenerate again (It will not affect the original set operation cycle.)

3When the feed water hardness change a lot, you can adjust the water treatment capacity as follow:

Press and hold both and for 5 seconds to lift the lock status. Press , and the blight on, then press , the digital area shows the control mode. If it shows A-02 or A-12, press three times, and the digital area will shows the given water treatment capacity. (If the control mode shows A-03 or A-13, then press four times, the digital area will show the feed water hardness); Press again, and digital flash. Press or continuously, reset the capacity value (Or water hardness valve.) Press and hear a sound "Di", then finish the adjustment. Press to exit and turn back the service status.

The estimation of water treatment capacity, you can refer to the professional application specification. When select A-03 or A-13 intelligent control mode, the control will automatically calculate the water treatment capacity by setting resin volume, feed water hardness and regeneration factor.

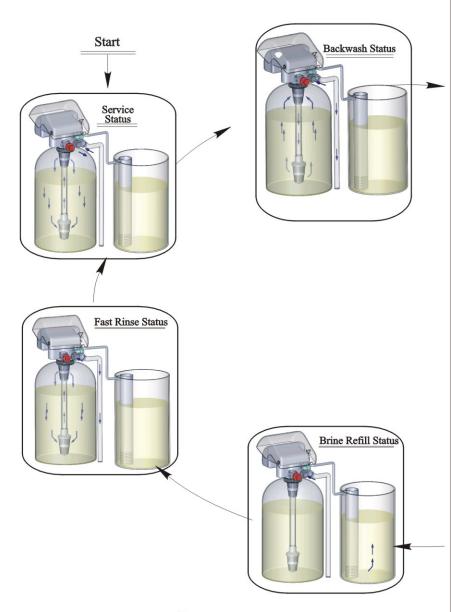
④ For A-01, A-03, A-11 or A-13 control mode (Meter delayed regeneration type), please pay attention to whether the time is current or not. If the time is not right, you can adjust as follow: After lifting the lock status, press ☑, the ② and ⑥ light on. Then press ☑, the ② and hour value flash. Press △ or ✓ continuously, reset the hour value; Press ☑ again, ② and minute value flash. Press △ or ✓ continuously, reset the minute value; Press ☑ and hear a sound "Di" then finish the adjustment. Press ☑ exit and turn back the service status.

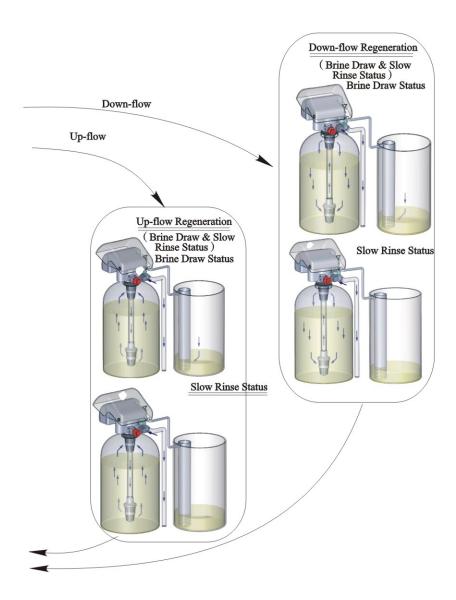
The regeneration parameters have been set when control valve left factory. Generally, it does not need to reset. If you want enquiry and modify the setting, you can refer to the professional application specification.

3. Applications

3.1 Softener Flow Chart (Take F79A as example, regeneration with raw water for F79B).

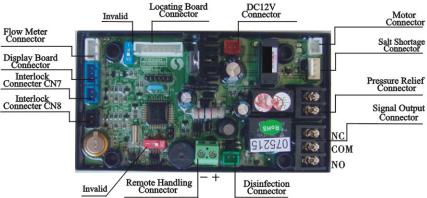
Working Process and Principle





3.2 The Function and Connection of PC Board

Open the front cover of control valve, you will see the main control board and connection port as below:



The main functions on main control board:

Function	Application	Explanation
Signal	Outlet solenoid valve	To strictly require no hard water flow from outlet or controlling the liquid level in water tank.
output connector b-01	Inlet pump	Increase pressure for regeneration or washing. Use the liquid level controller to control inlet pump to ensure there is water in tank.
Signal output connector b-02	Inlet solenoid valve or inlet pump	When inlet pressure is high, it needs to close water inlet when valve is rotating to protect motor.
Pressure relief connector	Control the inlet bypass to release pressure	When valve is rotating, pressure relief connector opened to prevent pressure increasing rapidly.
Interlock connector	To ensure not only one control valve regeneration or washing in system.	Use in RO pre-treatment, water supply together but regeneration in turn, second grade ion exchange equipment, etc.
Remote handling connector	Receipt signal to make the control rotate to next circle	It is used for on-line inspection system and PC connection, and realize automation or remote controlling valve.

A. Signal Output Connector

- 1) Control Outlet Solenoid Valve (Set b-01)
- ①Solenoid Valve on Outlet Controls Water Level in Brine Tank.

Instruction: If system strictly require no hard water flow from outlet in regeneration cycle (Mainly for no hard water flow out when valve is switching or valve in backwash or brine drawing positions), a solenoid valve could be installed on outlet, the wiring refer to Figure 3-1.

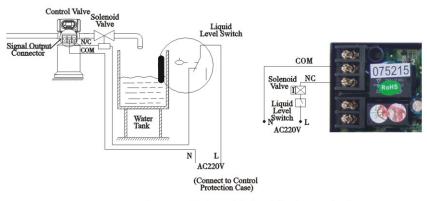


Figure 3-1 Wring of Solenoid Valve on Outlet

Function:

When valve in service status, if soft water tank is short of water, solenoid valve is open to supply soft water. But if water tank has enough water, solenoid valve will close, then no soft water supplied.

When the valve in backwash status, there is no signal output. So, solenoid valve is closed, and no raw water flow into soft water tank.

②Solenoid Valve on Inlet(Set b-02)

Instruction: When inlet pressure exceeds 0.6MPa, install a solenoid valve on inlet. Control mode is b-02. Pressure relieved when valve switching, the wiring refer to Figure 3-2. As Figure 3-3 shows, it also can use the pressure relief port to work.

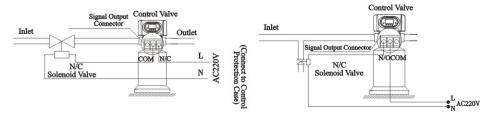


Figure 3-2 Wiring of Solenoid Valve on Inlet

Figure 3-3 Wiring of Pressure Relief Port

Function:

When inlet pressure is high, install a solenoid valve on inlet to ensure valve switching properly. When valve is exactly at position of Service, Backwash, Brine& Slow Rinse, Brine Refill and Fast Rinse, solenoid valve is open. When valve is switching, solenoid valve is closed, no water flow into valve to ensure valve switching properly. It could prevent the problem of mix water and water hammer.

Use interlock cable to realize valves in parallel and series in same system which is suited for RO pretreatment system or second grade Na⁺ system. The Wiring refer to Figure 3-4:

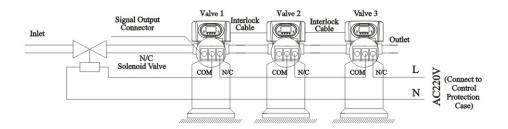


Figure 3-4 Wiring of Solenoid Vale in Inlet

2) Liquid Level Controller Controls Inlet Pump(Two-phase motor)(Set b-01) Instruction: For the system using well or middle-tank supplying water, switch of liquid level controller and valve together control pump opening or closing. The wiring refer to Figure 3-5:

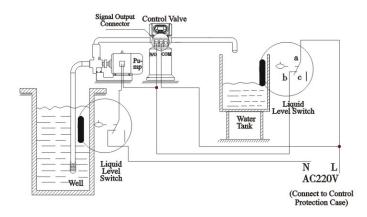


Figure3-5 Wiring of Liquid Level Controller Controlling Inlet Pump

Function:

When valve in service status, if water tank is short of water, start up pump. But if water tank has enough water, the switch of liquid level controller is closed, so pump doesn't work.

When valve in regeneration cycle, inlet always has water no matter what is water condition in water tank. As Runxin valve no water pass outlet in regeneration cycle, it ensures no water fill into brine tank. A liquid switch at the top opening O well or in middle water tank in RO system protects pump from working without water in case of out of raw water.

3) Liquid Level Switch in Water Tank Controls Inlet pump (Three-phase) (Set b-01)

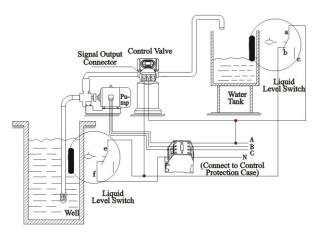


Figure 3-6 Wiring of Liquid Level Switch in Water Tank Controls Inlet Pump

4) Control Inlet Booster Pump(Set b-01 or b-02)

Instruction: If inlet water pressure is less than 0.15MPa, which makes back wash or brine draw difficult, a booster pump is suggested to be installed on inlet. Control mode b-01. When system in regeneration cycle, booster pump is open, the wiring refer to Figure 3-7. If the booster pump current is bigger than 5A, system need to install an contactor, the wiring refer to Figure 3-8

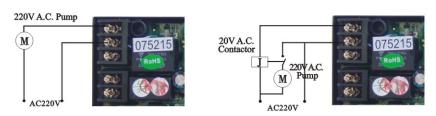


Figure 3-7 Wiring of Booster Pump on Inlet

Figure 3-8 Wiring of Contactor

B. Interlock

Instruction:

In the parallel water treatment system, it ensures only one valve in regeneration or washing cycle and (n-1) valves in service, realizing the function of supplying water simultaneously and regenerating individually, the wiring refer to Figure 3-9

In the series and parallel water treatment system (Second grade Na⁺ exchanger or RO pre-treatment system), it ensures only one valve in regeneration or washing cycle and there is/are water(s) in service.

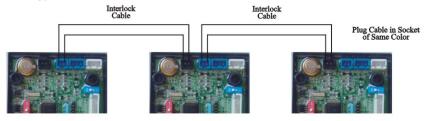


Figure 3-9 Network System Wiring with Interlock Cable

Use interlock cable to connect the black socket of one valve with the blue socket of another valve in series.

One system with several valves, if interlock cable is disconnected, the system is divided into two individual interlock interlock system.

C. Pressure Relief Output

Runxin valve will cut off feeding water to drain line when it switches in regeneration cycles. Thus in some water treatment system, e.g. deep well, one booster pump is installed on the inlet to increase the system water feeding pressure, this cut-off will cause pressure on inlet rising too fast to damage the valve. Pressure Relief Output can be used to avoid this problem. The wiring refer to Figure 3-10

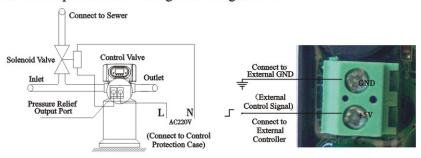


Figure 3-10 Wiring of Pressure Relief Output Connector

Figure 3-11 Wiring of Remote Handling Connector

D. Remote Handling Connector

Online TDS meter monitors treated water other than a flow meter, or PLC controls the regeneration time. When the controller receives a contact closure from above instruments, regeneration begins. The wiring refer to Figure 3-11:

E. Interlock System

2 or more than 2 valves are interlocked connecting in one system and all valves are in service but regenerate individually. The wiring refer to Figure 3-12:

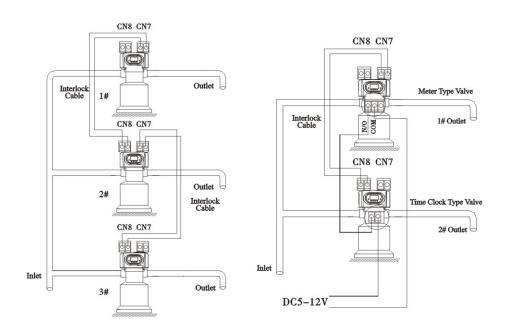


Figure 3-12 Interlock system

Figure 3-13 Series system

F. Series System

This is a 2 or more than 2 valves system, all in service, with one flow meter for the entire system. For the time type valve, the regeneration time should be set and adjusted to the Max; for the meter type valve, connect its signal output connector with the remote handling connector of the time clock type valve. That can realize the function of supplying water simultaneously and regenerating orderly. The wiring refer to Figure 3-13:

3.3 System Configuration and Flow Rate Curve

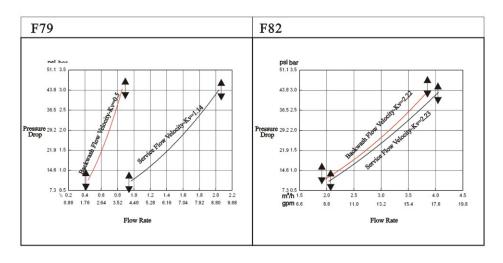
A. Product Configuration

Product configuration with tank, resin volume, brine tank and injector

Tank Size (mm)	Resin Volume (L)	Flow Rate (t/h)	Brine Tank Size (mm)	The Minimum Salt Cons- umption for Regeneration (Kg)	Injector Model
ф 180 × 1130	16	0.5	φ 250 × 520	2.4	6302
ф 205 × 1300	25	0.7	ф 390 × 810	4.0	6303
ф 255 × 1390	40	1.2	ф 390 × 810	6.0	6305
ф 300 × 1650	60	1.8	φ 450 × 940	9.0	6306
ф 355 × 1650	100	2.5	φ 500 × 1060	15.0	6308
φ 400 × 1650	120	3.5	φ 550 × 1160	18.0	6309
φ 450 × 1650	150	4.5	φ 550 × 1160	22.5	6310

Attention: The flow rate calculation is based on linear velocity 25m/hr; the minimum salt consumption for regeneration calculation is based on salt consumption 150g / L (Resin).

- B. Flow Rate Characteristic
- 1) .Pressure-flow rate curve



2) .Injector parameter table

Inlet Pressure	Draw Rate (L/M)									
MPa	6301 Coffee	6302 Pink	6303 Yellow	6304 Blue					6309 Green	6310 Orange
0.15	0.81	1.12	1.58	2.21	2.45	3.30	3.44	4.08	5.19	5.69
0.20	0.95	1.41	1.87	2.53	2.89	3.88	4.21	4.83	5.36	6.80
0.25	0.99	1.61	2.08	2.79	3.30	4.30	4.66	5.39	6.86	7.65
0.30	1.30	1.81	2.18	3.05	3.66	4.74	5.15	5.95	7.50	8.60
0.35	1.45	1.96	2.39	3.27	3.94	5.02	5.55	6.51	8.30	9.57
0.40	1.56	2.12	2.55	3.50	4.25	5.41	5.88	6.77	8.74	9.90

3) .Configuration for standard injector and drain line flow control

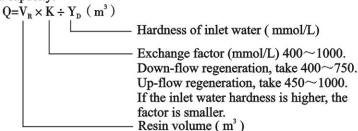
Tank Dia.	Injector Mode	Injector Color	Draw Rate	Slow Rinse	Brine Refill DLFC		Backwash / Fast Rinse
mm	1,1000	0 0101	L/m	L/m	L/m		L/m
150	6301	Coffee	1.30	0.91	3.0	1#	4.7
175	6302	Pink	1.81	1.32	3.7	1#	4.7
200	6303	Yellow	2.18	1.73	3.8	2#	8.0
225	6304	Blue	3.05	2.14	3.3	2#	8.0
250	6305	White	3.66	2.81	4.3	3#	14.4
300	6306	Black	4.74	3.32	4.2	3#	14.4
325	6307	Purple	5.15	3.55	4.1	4#	22.8
350	6308	Red	5.95	4.0	4.0	4#	22.8
400	6309	Green	7.50	5.13	4.0	5#	26.4
450	6310	Yellow	8.60	5.98	3.9	5#	26.4

Remark: Above data for the product configuration and relevant characteristics are only for reference. When put in practice, please subject to the different requirements of raw water hardness and application.

3.4. Parameter settlement

(1)Service time T1

Water treatment capacity:



By hours: T1=Q \div Q_h (Hour)

Water treatment capacity per hour (m³/h)

Water treatment capacity (m³)

By days: T1=Q
$$\div$$
 Q_d (Day)
Water treatment capacity per day (m³/d)
Water treatment capacity (m³)

2 Backwash time T2

It is subject to the turbidity of inlet water. Generally, it is suggested to be set $10 \sim 15$ minutes. The higher the turbidity is, the longer backwash time can be set. However, if the turbidity is more than 5 FTU, it is better to install a filter in front of the exchanger.

3Brine& slow rinse time (Slow rinse time is also called replacement time)

a) Brine time=
$$60 \times V_z/(S \times v)$$
 (min.)

$$V_z = Mcz/(C \times \rho \times 103)$$
 (m³)

In this formula, V_z —Regeneration fluid volume (m³)

S—Cross-sectional area of exchanger layer (m²)

v-Regeneration fluid flow rate (m/h)

 $M_{\mbox{\tiny ez}}$ —The amount of 100% purity reagent (kg)

C——Consistence of regeneration fluid (%)

 ρ ——Density of regeneration liquid

 $M_{cz} = V_R EkM/(\varepsilon \times 1000)$ (kg)

In this formula, V_R——Resin volumn, m³

E-Resin exchange capacity, mol/m³

k—Reagent consumption, for down-flow regeneration, k range from 2 to 3.5, for up-flow regeneration, k range from 1.2~1.8

M—Molar mass of reagent, 58.5 for NaCl

- ε ——Purity of reagent, 95% to 98% for the NaCl content of table salt
- b) Slow rinse time = Slow rinse capacity/slow rinse rate (Minute)

Generally, the water for slow rinse is $0.5 \sim 1$ times of resin volume.

4)Brine tank refill time = Refill water capacity/refill rate(Minute)

The capacity of refill water is equal with the consumption of regeneration liquid. The real refill time should be 1 to 2 minutes longer than the calculated time in order to refill enough water in the brine tank. (The brine tank should be equipped with liquid level controller) ⑤Fast rinse time = Fast rinse capacity/fast rinse rate (Minute)

Generally, the water for fast rinse is $3\sim6$ times of resin volume, and fast rinse time can be ranged from $10\sim12$ minutes.

©Exchange factor

Exchange factor = $E/(k \times 1000)$

In this formula, E—Resin working exchange capability (mol/m^3) . It is related to the quality of resin. Down-flow regeneration, take $800\sim900$. Up-flow regeneration, take $900\sim1200$.

K——Security factor, always take $1.2\sim2$. It is related to the hardness of inlet water: The higher the hardness is, the bigger the K is.

①Set up interval backwash times (Only for up-flow regeneration mode)

When the turbidity of raw water is higher, the interval backwash time could be set F-00. That is, backwash in each regeneration; when the turbidity is lower, the interval backwash time could be set F-01(or other value), it is to say that backwash in every two regeneration. Thus, Service→Brine& Slow rinse→Brine refill→ Fast rinse→ Service→ Backwash →Brine& Slow rinse →Brine refill →Fast rinse.

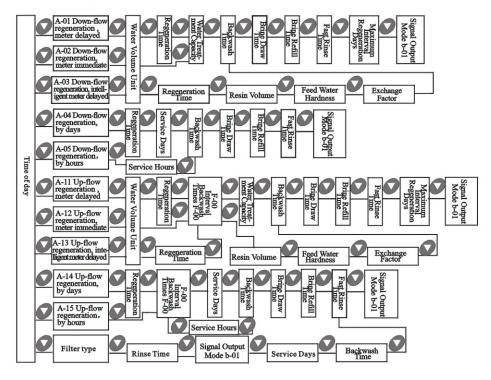
®Regeneration time: The whole cycle for generation is about two hours. Please try to set up the regeneration time when you don 't need water.

The above calculation of parameters for each step is only for reference, the actual proper time will be determined after adjusting by water exchanger supplier. This calculation procedure of softener is only for industrial application; it is not suitable for small softener in residential application.

3.5. Parameter Enquiry and Setting

3.5.1. Parameter Enquiry

When ξ light on, press and hold both Ω and Ω for 5 seconds to lift the button lock status; then press Ω and Ω and Ω light on, enter to program display mode; press Ω to view each value according to below process. (Press Ω to exit and turn back to service status)



3.5.2. Parameter Setting

In program display mode, press and enter into program set mode. Press or to adjust the value.

3.5.3. The Steps of Parameter Setting

Item	Process Step	Symbol
Time of Day	When time of day "12:12" continuously flash, it reminds to reset; 1.Press to enter into program display mode; both and symbol light on, ": " flash; press not adjust the hour value flash, through or to adjust the hour value; 2. Press again, both and minute value flash, through or to adjust the minute value; 3.Press and hear a sound "Di", then finish adjustment, press to turn back.	0 8:3 0 0 %
Con- trol Mode	1. In control mode display status, press and enter into program set mode. And 01 value flash; 2. Press or to set the value to be A-02, A-03, A-04, A-05, A-05, A-11, A-12, A-13 VA-14, A-15 or A-21 control mode; 3. Press and hear a sound "Di", then finish adjustment, press to turn back.	Я - Д ! ®>
Unit Mode	1.In unit mode display status, it shows 20:00 press and enter into program set mode, and 01 flash; 2.Press and or and choose m3, L or gal; 3. Press and finish adjustment, press to turn back.	# U - U ! -
Reg- ener- ation Time	1. In regeneration time display status, it shows 02:00; press and enter into program set mode. and 02 flash; 2. Press again, and 00 flash, press or to adjust the minute value; 3. Press and hear a sound "Di", then finish adjustment, press to turn back.	0 2:0 0
val Back- wash	1. In interval backwash time display status, it shows F-00. Press and enter into program set mode. and 00 value flash; 2. Press or to adjust the interval backwash times value; 3. Press and hear a sound "Di", then finish adjustment, press to turn back.	F - [] [] & &

Water Treat- ment Cap- acity	1. In water treatment capacity display status, it shows and 10.00. Press and enter into program set mode. And 10.00 flash; 2. Press or to adjust the water treatment capacity value (m³); 3. Press and hear a sound "Di", then finish adjustment, press to turn back.	(0.0 0 · s
Resin Vol- ume	1. In resin volume display status, it shows 100L. Press and enters into program set mode. and 100 value flash; 2. Press or to adjust the volume value (L); 3. Press and hear a sound "Di", then finish adjustment, press to turn back.	(
Feed Water Hard- ness	1. In feed water hardness display status, it shows yd1.2. Press and enter into program set mode. and 1.2 value flash; 2. Press or to adjust the hardness value (mmol/L); 3. Press and hear a sound "Di", then finish adjustment, press to turn back.	₹d 1.₹
Exch- ange Factor	1. In exchange factor display status, it shows AL.55. Press and enter into program set mode. And 55 flash; 2. Press or to adjust the exchange factor value; 3. Press and hear a sound "Di", then finish adjustment, press to turn back.	<i>RL.</i> 55 ⊗
Back- wash Time		2-10:00 m
Brine & Slow Rinse Time	1. In brine & slow rinse time display status, it shows and 3-60:00. Press □ and enter into program set mode. ⇒ and 60:00 flash; 2. Press or to adjust the brine & slow rinse time; 3. Press □ and hear a sound "Di", then finish adjustment, press □ to turn back.	3-5 0:0 0

Brine Refill Time	1. In brine refill time display status, it shows and 4-05:00. Press and enter into program set mode. and 05:00 flash; 2. Press or to modify the brine refill time; 3. Press and hear a sound "Di", then finish adjustment, press to turn back.	Y-0 5:0 0
Fast Rinse Time	1. In fast rinse time display status, it shows and 5-10:00. Press and and enter into program set mode. and 10:00 flash; 2. Press or to adjust the fast rinse time; 3. Press and hear a sound "Di", then finish adjustment, press to turn back.	5-10:00 ## %
Max- imum Inte- rval Regen- eration Days	2. Press or to adjust the interval regeneration days:	# - 3 ₽° ⊗
Signal Output Mode	1. In signal output mode display status, it shows b-01. Press and enter into program set mode. And 01 flash; 2. Press or to adjust the b-02; 3. Press and hear a sound "Di", then finish adjustment, press to turn back.	b - Ø 1 ⊕

- ⑥Press ②, there is a sound "Di" and the figure stop flashing; the program back to enquiry status;
- The following states and quit from the enquiry stat, the display will show the current service status.

3.6 Trial Running

After installing the multi-functional flow control valve on the resin tank with the connected pipes, as well as setting up the relevant parameter, please conduct the trail running as follows:

- A. Close the inlet valve B & C, and open the by-pass valve A. After cleaning the foreign materials in the pipe, close the bypass valve A. (As Figure 3 shows.)
- B. Adding calculated water to the brine tank and adjust the air check valve. Adding solid particle salt to the brine tank then dissolve the salt as far as possible.
- C. Switch on power. Press and enter into the Backwash position; when light on, slowly open the inlet valve B to 1/4 position, making the water flow into the resin tank; you can hear the sound of air-out from the drain pipeline. After all air is out of pipeline, then open inlet valve B completely and clean the foreign materials in the tank until the water from drain is clean. It will take 8~10 minutes to finish the whole process.
- D. Press \bigcirc , turning the position from Backwash to Brine& Slow Rinse; \trianglerighteq light on and enter in the process of Brine& Slow Rinse. The air check valve close when control valve finished brine drawing, then slow rinse start to work. It is about $60 \sim 65$ minutes for the whole process.
- E. Press to Brine Refill position. It light on and it indicates the brine tank is being refilled with water to the required level. It takes about 5 ~ 6 minutes. And adding some solid particle salt.
- F. Press , turning to Fast Rinse position. Illight on and start to fast rinse. After 10 ~ 15 minutes, take out some outlet water for testing. If the water hardness reach the requirement, and the chloridion in the water is almost the same compared with the inlet water, then go to the next step.
- G. Press , making the control valve return to Service status; light on and start to running.

Note:

- When the control valve enter into the regeneration status, all program can be finished automatically according to the setting time; if you want one of steps terminated early, you can press .
- If water inflow too fast, the media in tank will be damaged. When water inflow slowly, there is a sound of air emptying from drain pipeline.
- After changing resin, please empty air in the resin according to the above Step C.
- In the process of trial running, please check the water situation in all position, ensuring there are no resin leakage.
- The time for Backwash, Brine& Slow Rinse, Brine Refill and Fast Rinse position can beset and executed according to the calculation in the formula or suggestions from the control valve suppliers.

3.7. Trouble-Shooting

A. Control Valve Fault

Problem	Cause	Correction
1.Softener fails to reg- enerate.	A. Electrical service to unit has been interrupted. B. Regeneration cycles set incorrect. C. Controller is defective. D. Motor fails to work.	A. Assure permanent electrical service (Check fuse, plug or switch). B. Reset regeneration cycles. C. Replace controller. D. Replace motor.
2. Regeneration time is not correct.	A. Time of day not set correctly. B. Power failure more than 3 days.	Check program and reset time of day.
3. Softener supply hard water.	A. Bypass valve is open or leaking. B. No salt in brine tank. C. Injector plugged. D. Insufficient water flowing into brine tank. E. Leak at O-ring on riser pipe. F. Internal valve leak. G. Regeneration cycles not correct. H. Shortage of resin. I. Bad quality of feed water or turbine blocked. J. Bypass screw opened.	A. Close or repair bypass valve. B. Add salt to brine tank and maintain salt level above water level. C. Change or clean injector. D. Check brine tank refill time. E. Make sure riser pipe is not cracked. Check O-ring and tube pilot. F. Change valve body. G. Set correct regeneration cycles in the program. H. Add resin to mineral tank and check whether resin leaks. I. Reduce the inlet turbidity, clean or replace turbine. J. Tighten up bypass screw.
4. Softener fails to draw brine.	A. Line pressure is too low. B. Brine line is plugged. C. Brine line is leaking. D. Injector is plugged. E. Internal control leak. F. Drain line is plugged. G. Sizes of injector and DLFC not match with tank.	A. Increase line pressure. B. Clean brine line. C. Replace brine line. D. Clean or replace injector. E. Replace valve body. F. Clean drain line flow control. G. Select correct injector size and DLFC according to the P27 requirements.
5. Unit used too much salt.	A. Improper salt setting. B. Excessive water in brine tank.	A. Check salt usage and salt setting. B. See problem No.6.

Control Valve Fault (Continued)

A. Overlong refilling time. B. Remain too much water after brine. C. Foreign material in brine valve and plug drain line flow control. D. Not install safety brine valve and power failure whiling salting. E. Safety brine valve breakdown.	A. Reset correct refilling time. B. Check the injector and make sure no stuff in the brine pipe. C. Clean brine valve and brine line. D. Stop water supplying and restart program install safety brine valve in salt tank. E. Repair or replace safety brine valve.
A. Iron in the water supply pipe. B. Iron mass in the softener. C. Fouled resin bed. D. Too much iron in the raw water.	A. Clean the water supply pipe. B. Clean valve and add resin cleaning agent, increase frequency of regeneration. C. Check backwash, brine draw and brine tank refill. Increase frequency of regeneration and backwash time. D. Iron removal equipment is required to install before softening.
A. Air in water system. B. Bottom strainer broken. C. Improperly sized drain line control.	A. Assure that well system has proper air eliminator control. B. Replace new strainer. C. Check for proper drain rate.
A. Locating signal wiring breakdown. B. Controller is faulty. C. Foreign material stuck the driving gear. D. Time of regeneration steps were set to zero.	A. Check and connect locating signal wiring. B. Replace controller. C. Take out foreign material. D. Check program setting and reset.
A. Internal valve leak. B. Electricity fails when backwash or fast rinse position.	A. Check and repair valve body or replace it. B. Adjust valve to service position or turn off bypass valve and restart when electricity supply.
A. Water pressure too low or not stable. B. Injector is plugged or faulty. C. Air in resin tank. D. Floccules in resin tank during backwash.	A. Increase water pressure. B. Clean or replace injector. C. Check and find the reason. D. Clean the floccules in resin tank.
A. Foreign material in valve which makes valve can't be closed completely. B. Hard water mixed in valve body. C. Water pressure is too high which result in valve doesn't get the right position.	A. Clean foreign material in valve body. B. Change valve core or sealing ring. C. Reduce water pressure or use pressure relief connector function.
	B. Remain too much water after brine. C. Foreign material in brine valve and plug drain line flow control. D. Not install safety brine valve and power failure whiling salting. E. Safety brine valve breakdown. A. Iron in the water supply pipe. B. Iron mass in the softener. C. Fouled resin bed. D. Too much iron in the raw water. A. Air in water system. B. Bottom strainer broken. C. Improperly sized drain line control. A. Locating signal wiring breakdown. B. Controller is faulty. C. Foreign material stuck the driving gear. D. Time of regeneration steps were set to zero. A. Internal valve leak. B. Electricity fails when backwash or fast rinse position. A. Water pressure too low or not stable. B. Injector is plugged or faulty. C. Air in resin tank. D. Floccules in resin tank during backwash. A. Foreign material in valve which makes valve can't be closed completely. B. Hard water mixed in valve body. C. Water pressure is too high which result in valve doesn't get the right

Control Valve Fault (Continued)

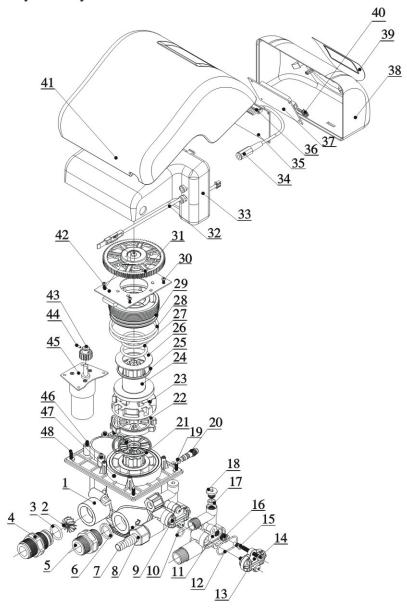
13. Salt water in soften water.	A. Foreign material in injector or injector fails to work. B. Brine valve cannot be shut-off. C. Time of fast rinse too short.	A. Clean and repair injector. B. Repair brine valve and clean it. C. Extend fast rinse time.
14. Circle water treatment capacity decreases.	A. Regenerate not properly. B. Fouled resin bed. C. Salt setting not proper. D. Softener setting not proper. E. Raw water quality deterioration. F. Turbin has already been stucked.	A. Regenerate according to right way. B. Increase backwash flow rate and time, clean or change resin. C. Readjust brine drawing time. D. According to the test of outlet water, recount and reset. E. Regenerate unit by manual temporary then reset regeneration cycle. F. Disassemble flow meter and clean it or replace a new turbine.

B. Controller Fault

Problem	Cause	Correction
1. All indictors display on front panel.	A. Wiring of front panel with controller fails to work. B. Control board is faulty. C. Transformer damaged. D. Electrical service not stable.	A. Check and replace the wiring. B. Replace control board. C. Check and replace transformer. D. Check and adjust electrical service.
2. No display on front panel.	A. Wiring of front panel with controller fails to work. B. Front panel damaged. C. Control board damaged. D. Electricity is interrupted.	A. Check and replace wiring. B. Replace front panel. C. Replace control board. D. Check electricity.
3. E1 flash	A. Wiring of locating board with controller fails to work. B. Locating board damaged. C. Mechanical driven failure. D. Faulty control board. E. Wiring of motor with controller is fault. F. Motor damaged.	A. Replace wiring. B. Replace locating board. C. Check and repair mechanical part. D. Replace control board. E. Replace wiring. F. Replace motor.
4. E2 flash	A. Hall component on locating board damaged. B. Wiring of locating board with controller fails to work. C. Control board is faulty.	A. Replace locating board. B. Replace wiring. C. Replace control board.
5. E3 or E4 flash	A. Control board is faulty.	A. Replace control board.

3.8 . Assembly & Parts

Valve Body Assembly of F79A

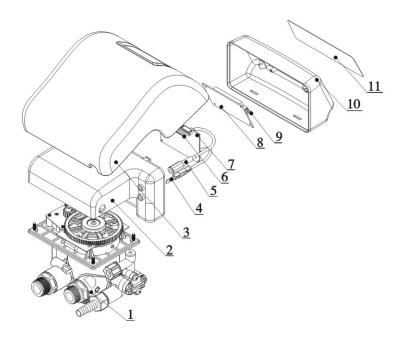


F79A Valve Body Components.

Ţ	F /9A valve Body Components.						
Item	Description	Part No.	ntity		Item		
1	Valve Body	8022029	1		25		
2	Impeller	5436007	1		26		
3	O-ring	8378074	1		27		
4	Flow Meter Connector	8458026	1		28		
5	Animated Connector	8458001	1		29		
6	Seal Ring	8371019	1		30		
7	O-ring	8378143	1		31		
8	O-ring	8378078	1		32		
9	O-ring	8378016	2		33		
10	O-ring	8378012	1		34		
11	Injector Body	8008001	1		35		
12	O-ring	8378025	1		36		
13	Cover of Injector	8315001	1		37		
14	Screw, Cross	8902017	2		38		
15	Throat, Injector	8467001	1		39		
16	Nozzle, Injector	8454001	1		40		
17	Seal Ring	8370003	1		41		
18	Plug	8323002	1		42		
19	O-ring	8378003	3		43		
20	Adjust Screw	8906002	1		44		
21	Seal Ring	8370046	1	8 8	45		
22	Fixed Disk	8469024	1		46		
23	Moving Disk	8459026	1	8 6	47		
24	Shaft	8259013	1		48		

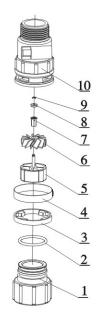
Item	Description	Part No.	Qua- ntity
25	Moving Seal Ring	8370064	1
26	Anti-friction Washer	8216011	1
27	O-ring	8378116	2
28	O-ring	8378126	2
29	Fitting Nut	8092011	1
30	Screw, Cross	8909008	4
31	Gear	8241009	1
32	Probe Wire	8386001	1
33	Dust Cover	8005013	1
34	Wire for Power	8513001	1
35	Control Board	6382021	1
36	Wire for Locating Board	5511004	1
37	Display Board	6381003	1
38	Front Cover	8300008	1
39	Label	8865008	1
40	Wire for Display Board	5512001	1
41	Weather Cover	8300015	1
42	Locating Board	6380011	1
43	Small Gear	8241015	1
44	Pin	8993001	1
45	Motor	6158026	1
46	Screw, Cross	8902008	4
47	Screw, Cross	8909008	4
48	Screw, Cross	8909016	4

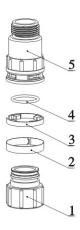
F79B Valve Body Components



Item No.	Description	Part Number	Qua- ntity	Note
1	Valve Body	6794013	1	All the parts are the same as 836 02 except the moving disk 459027
2	Dust Cover	8005041	1	1
3	Weather Cover	8300015	1	1
4	Probe Wire	8002007	1	1
5	Wire for Power	8513003	1	1
6	Wire for Locating Board	5511004	1	1
7	Control Board	6382021	1	1
8	Display Board	6381003	1	1
9	Wire for Display Board	5512001	1	T
10	Front Box	8300004	1	1
11	Label	8865004	1	1

Flow Meter Connector & Animated Connector

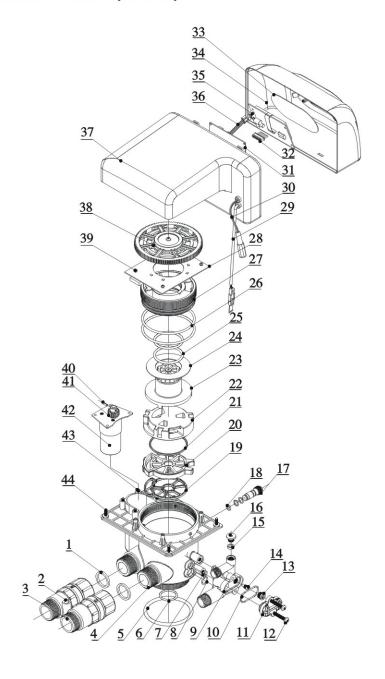




	5447007 Flow Meter				
Item No.	Description	Part No.	Qua- ntity		
1	Animated Nut	8945001	1		
2	O-ring 28 × 2.65	8378081	1		
3	Clip	8270001	1		
4	Ferrule	8270002	1		
5	Impeller Supporter	5115001	1		
6	Impeller	5436001	1		
7	Rotate Core	8211001	1		
8	Bushing	8210001	1		
9	Spring Check Ring	8945005	1		
10	Shell	8002001	1		

5457002 Animated Connector					
Item No.	Description	Part No.	Qua- ntity		
1	Animated Nut	8945001	1		
2	Ferrule	8270002	1		
3	Clip	8270001	1		
4	O-ring 28 × 2.65	8378081	1		
5	Connector	8458038	1		

F82A3/F82B3 Valve Body Assembly

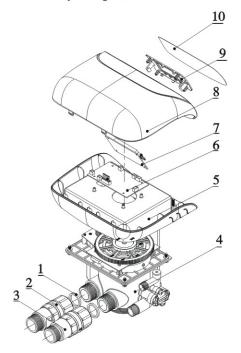


F82A3 /F82A1/F82B3/F82B1 Valve Body Components

T4		Part No.				Qua- ntity
Item	Description	F82A1	F82A3	F82B1	F82B3	
1	Washer	/	8371001	/	8371001	2
2	Flow Meter	/	5447007	/	5447007	1
3	Animated Connector	/	5457002	/	5457002	1
4	Valve Body	8022030	8022030	8022030	8022030	1
5	O-ring	8378143	8378143	8378143	8378143	1
6	O-ring	8378078	8378078	8378078	8378078	1
7	O-ring	8378016	8378016	8378016	8378016	2
8	O-ring	8378012	8378012	8378012	8378012	1
9	Injector Body	8008001	8008001	8008001	8008001	1
10	Moving Seal Ring	8370025	8370025	8370025	8370025	1
11	Injector Body	8345001	8345001	8345001	8345001	1
12	Screw, Cross	8902017	8902017	8902017	8902017	2
13	Nozzle, Injector	8454001	8454001	8454001	8454001	1
14	Throat, Injector	8467001	8467001	8467001	8467001	1
15	Seal Ring	8370003	8370003	8370003	8370003	1
16	Plug	8323002	8323002	8323002	8323002	1
17	By-pass Adjusting Screw	8906003	8906003	8906003	8906003	1
18	O-ring	8378004	8378004	8378004	8378004	3
19	Fixed Seal Ring	8370049	8370049	8370049	8370049	1
20	Fixed Disk	8469026	8469026	8469026	8469026	1
21	Moving Seal Ring	8370065	8370065	8370065	8370065	1
22	Moving Disk	8459029	8459029	8459030	8459030	1
23	Shaft	8258014	8258014	8258014	8258014	1
24	Anti-friction Washer	8216012	8216012	8216012	8216012	1
25	O-ring	8378123	8378123	8378123	8378123	2

26	O-ring	8378102	8378102	8378102	8378102	2
27	Fitting Nut	8092012	8092012	8092012	8092012	1
28	Locating Board	6380012	6380012	6380012	6380012	1
29	Probe Wire	/	6386001	/	6386001	1
30	Wire for Power	8513001	8513001	8513001	8513001	1
31	Control Board	6382021	6382021	6382021	8382021	1
32	Wire for Locating Board	5511004	5511004	5511004	5511004	1
33	Label	8865016	8865016	8865007	8865007	1
34	Front Box	8300017	8300017	8300007	8300007	1
35	Display Board	6381003	6381003	6381003	6381003	1
36	Wire for Display Board	5512001	5512001	5512001	5512001	1
37	Dust Board	8005016	8005016	8005016	8005016	1
38	Gear	5241011	5241011	5241011	5241011	1
39	Screw, Cross	8909016	8909016	8909016	8909016	1
40	Pin	8993003	8993003	8993003	8993003	1
41	Small Gear	8241015	8241015	8241015	8241015	1
42	Motor	5158011	5158011	5158011	5158011	1
43	Screw, Cross	8902008	8902008	8902008	8902008	4
44	Screw, Cross	8909016	8909016	8909016	8909016	4

F82AG3/F82BG3 Valve Body Components



F82AG1/F82AG3/F82BG1/F82BG3 Valve Body Components.

Thoma	Description Part No.					Qua-
Item	Description	F82AG1	F82AG3	F82BG1	F82BG3	ntity
1	Washer	/	8371001	/	8371001	2
2	Flow Meter	1	5447007	1	5447007	1
3	Animated Connector	/	5457002	/	5457002	1
4	Valve Body	Same as F82A1	Same as F82A3	Same as F82B1	Same as F82B3	1
5	Dust Cover	8005019	8005019	8005019	8005019	1
6	Control Board	6382003	6382003	6382003	6382003	1
7	Display Board	6381003	6381003	6381003	6381003	1
8	Front Box	5300001	5300001	5300001	5300001	1
9	Toggle	8109027	8109027	8109027	8109027	1
10	Label	8865020	8865020	8865020	8865020	1

4. Warranty Card

Dear client:

This warranty card is the guarantee proof of RUNXIN brand multi-functional flow control valve. 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 good or be altered;
- 5. Damage resulting from force majeure.

Product Name	於 AUNXIN	Multi-functional Flow Control Valve for Water Treatment Systems			
Model		Code of Valve Body			
Purchase Company Name			Tel/Cel.		
Problem					
Solution					
Date of Repairing	A	Date of Accomplishment		Maintenance Man Signature	

When product need warranty service, please fill in the below content and sent this card together with the product to the appointed suppliers or Runxin company.

	P		PP	- PF			
End-user Company Name					Tel/C	Cel.	
Purchase Company Name					Tel/C	Cel.	
Model			Code of	Valve 1	Body		
lank Size of X		Resin Siz			L	Raw Water Hardness	mmol/L
			ater Treatment Capacity		m³	Backwash Time	min
min			Brine Refill Time		min	Fast Rinse Time	min
Problem Description							



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