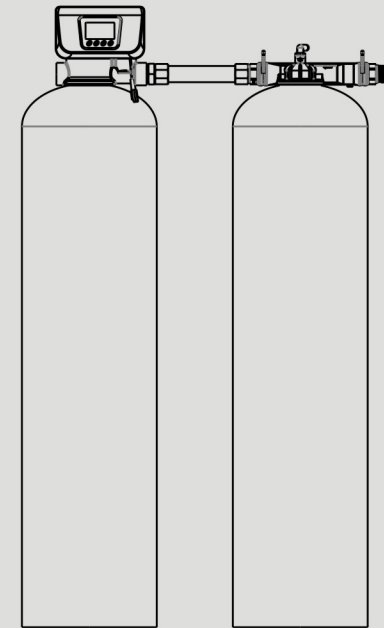




Iron and Manganese Removal Device

(Model : F107A)



User Manual

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

0WRX.466.599

Catalogue

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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.
- Test water periodically to verify that system is performing satisfactorily.
- Do not put the valve near heat sources or surroundings with high humidity, corrosive, intense magnetic field or intense vibrations environment. And do not leave it outside.
- Leave certain place for device installation, convenient for device operation and maintenance.
- If there is leaking water, as far as possible install the system near the place where loss minimization.
- Do not install the device, drain or connectors in a place which temperature may be lower than 5℃ or higher than 50℃.
- Please use this product under the water temperature between 5 ~ 25℃, water pressure 0.15 ~ 0.6MPa. 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 TFLSG pipe.
- Do not let children touch or play, because careless 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.
- In order to ensure the system operate steadily, please set up reasonable service, backwash parameters, iron and manganese sediment will be back flushed timely out of tank.

1.Product Overview

● 1.1.Main Application & Applicability

Remove the iron or manganese from the water which has a big containing, as a pre-treatment device before industrial softening system or demineralization system.

● 1.2.Product Characteristics

- High aeration dissolved oxygen degree.
- Automatic air release valve constantly drain off waste gas.
- Electric ball valve can be installed at the bottom of aeration tank, can set regular drain time.
- Reserve a level controller to control the water pump and air pump to start/stop connection port.
- Can choose working mode from time clock type and meter type.
- 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 and fast rinse.

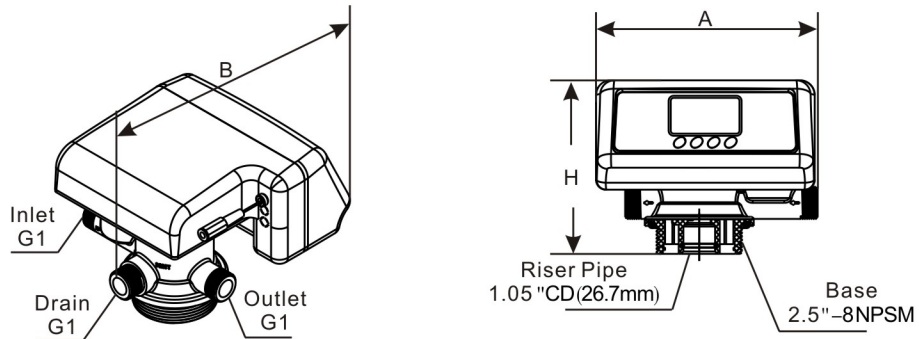
● 1.3.Service Condition

Iron and manganese removal device should be used under the below conditions:

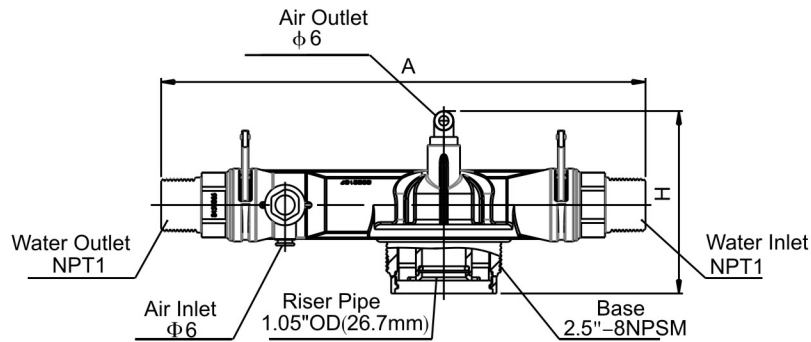
Items		Requirement
Working conditions	Water pressure	0.15MPa ~ 0.6MPa
	Water temperature	5℃ ~ 25℃
Working environment	Environment temperature	5℃ ~ 50℃
	Relative humidity	≤95% (25℃)
	Electrical facility	AC100 ~ 240V/50 ~ 60Hz
Inlet water quality	Iron containing	≤25mg/L
	Manganese containing	≤3mg/L
	Water turbidity	< 15NTU
	PH value	6.8 ~ 9

● 1.4.Product Structure and Technical Parameters

A.F67C3 filter valve dimensions



B. F107B aeration device dimensions



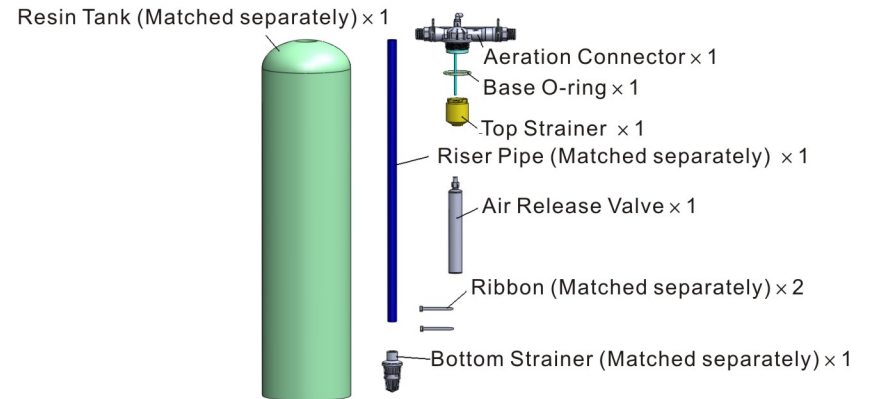
Product dimensions				
Name	Model	A(mm)	B(mm)	H(mm)
Filter Valve	F67C3	180	194	178.5
Aeration Device	F107B	299	/	113
Main Technical Parameters				
Outlet Water Quality	Water Treatment Capacity	2.0m ³ /h		
	Iron Containing	≤0.3 mg/L		
	Manganese Containing	≤0.1mg/L		
Transformer Input		AC100 ~ 240V/50 ~ 60Hz		
Transformer Output		DC12V,1.5A		

● 1.5.Installation

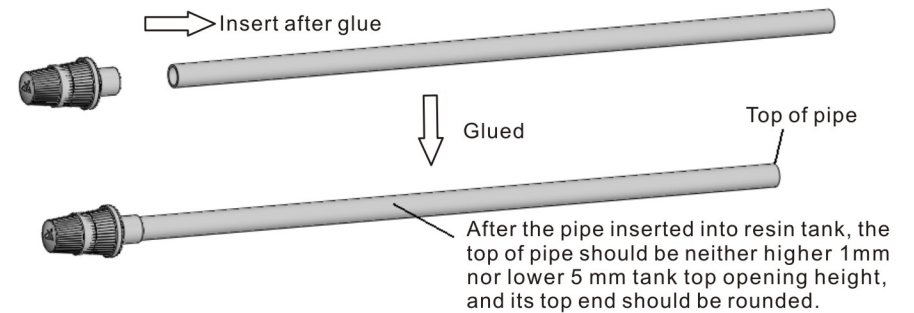
Before installation, please read each item on page 1.

A. Install Aeration Tank

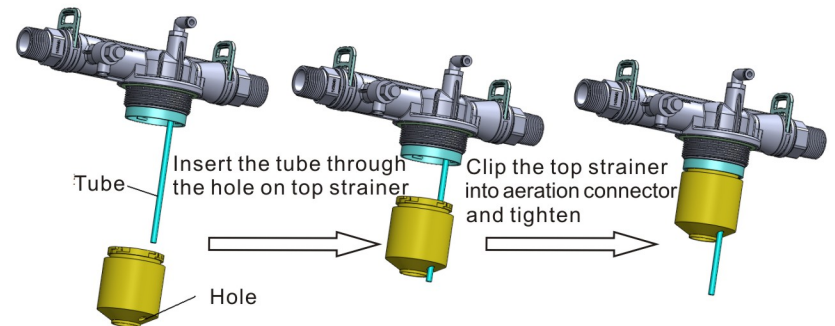
1).Material confirmation



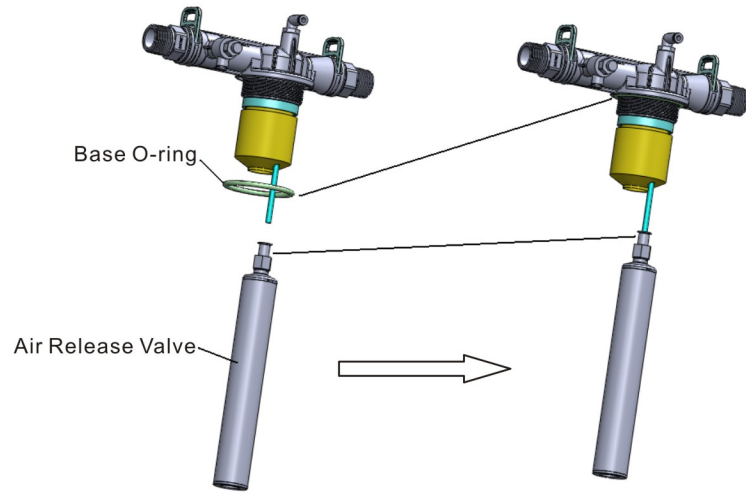
2).Glue bottom strainer



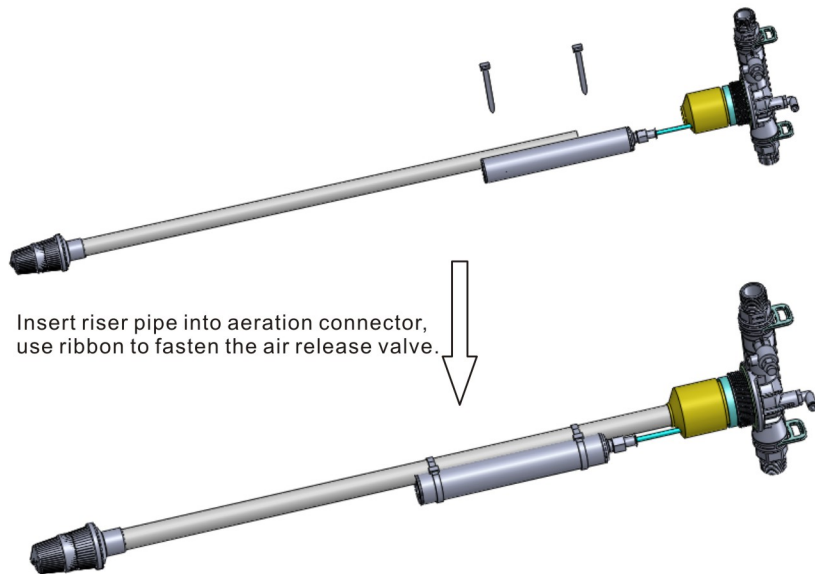
3).Install top strainer



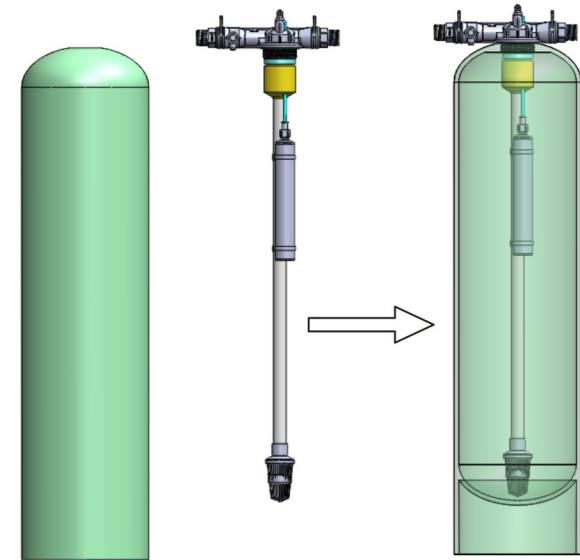
4). Install base o-ring and air release valve



5). Install riser pipe and fasten air release valve



6). Install above components into resin tank



B. Install Filter Tank

a. As the right figure shows, select riser pipe with right size, glue the riser pipe to the bottom strainer and put it into the mineral tank, cut off the exceeding tube out of tank top opening.

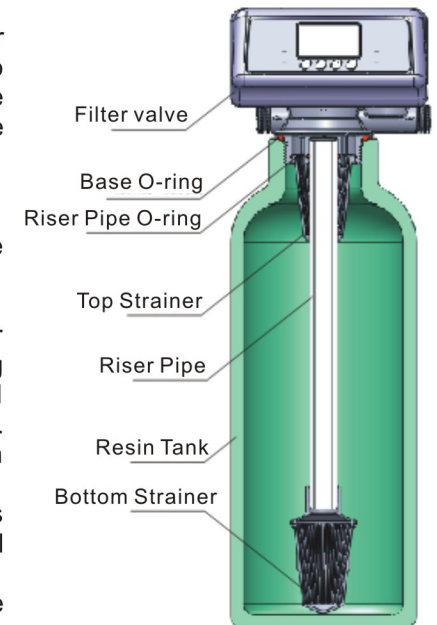
b. Fill the filter material to the tank.

c. Install the top strainer to the valve.

d. Insert the riser pipe into control valve and screw tight control valve.

Note:

- The length of riser tube should be neither higher 1mm nor lower 5mm tank top opening height, and its top end should be rounded to avoid damage of O-ring inside the valve.
- Avoid floccules substance together with resin to fill in the mineral tank.
- Filter material particles should not less than 0.5mm, avoid too small filter material block strainers.
- O-ring inside control valve falling out while rotating it on the tank.



C. Connect aeration tank, filter tank and other accessories

As figure 1 shows(Equipment back view) connect aeration tank and filter tank as well as other accessories(For reference only):

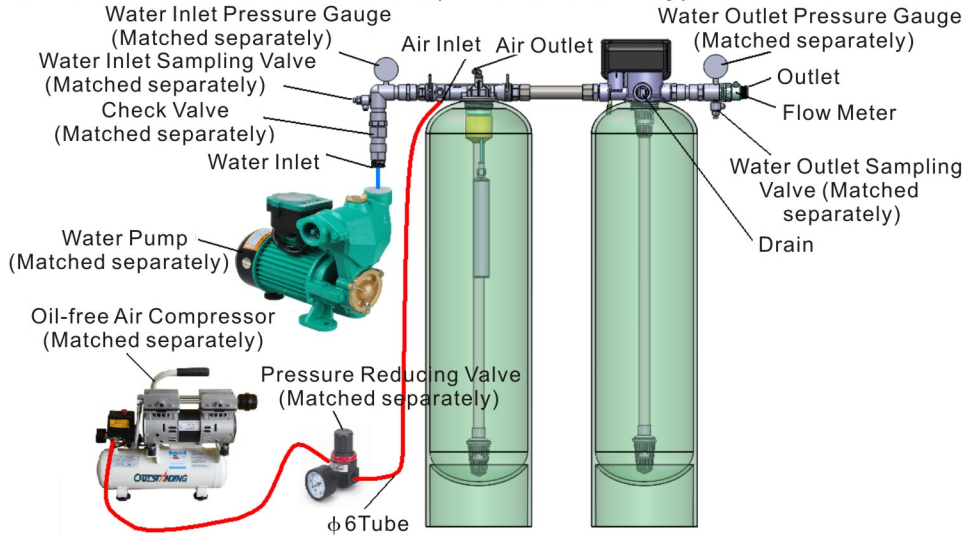


Figure 1

D. Other selected available accessories installation

1). Install air inlet solenoid valve (Normal closed)

As figure two shows, install a two passages solenoid valve on air inlet, in case of water tank full of water or equipment stop working or electricity service interrupted, the filter valve program will cut off compressed air into aeration tank to prevent the compressed air drain all of water in aeration tank and filter tank.

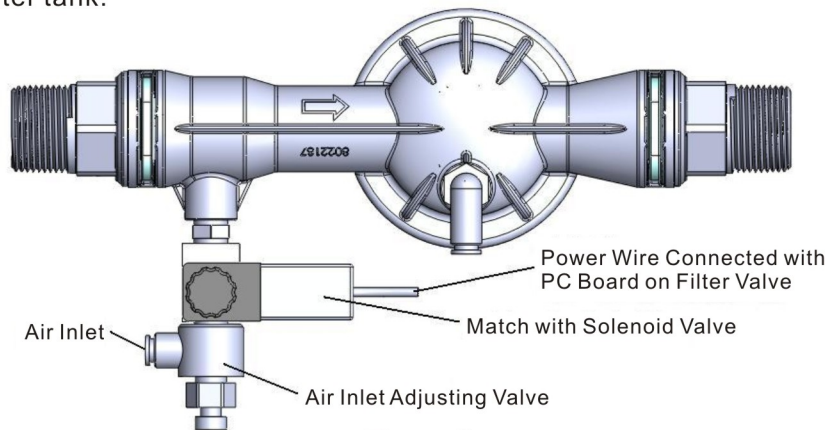


Figure 2

2). Install electronic ball valve at the bottom of aeration tank

Install an electronic ball valve at the bottom of aeration tank, filter valve will control the process and regular drain. It will set up drain time according to the needs, the intelligent program controls the electronic ball valve to drain when the tank is full or electricity service interrupted, which will prevent aeration tank iron and manganese from sediment agglomerate when shut down for a long time.

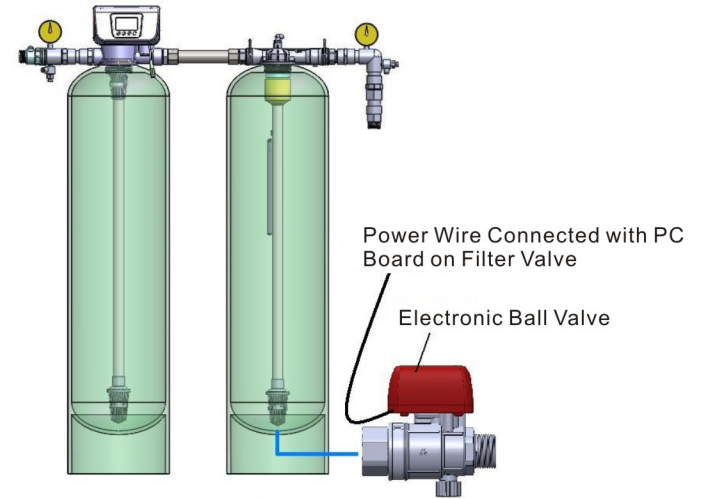
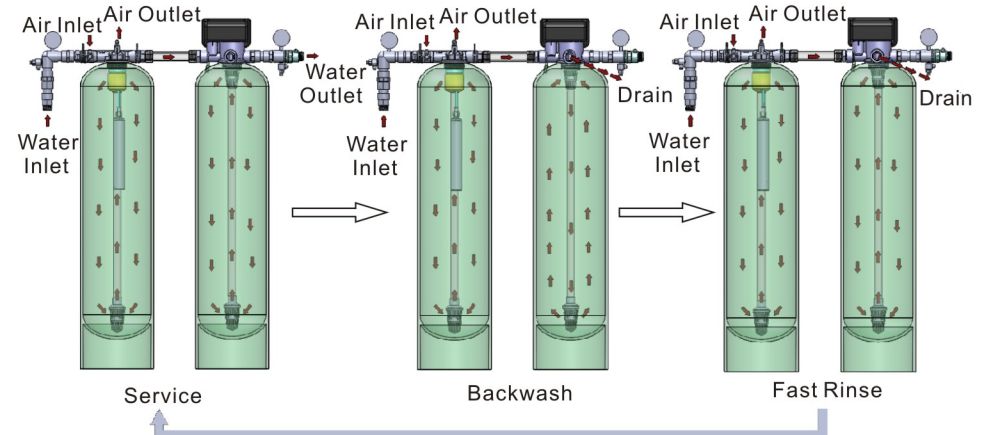


Figure 3

2.Applications

• 2.1.Iron and Manganese Removal Device Flow Chart



2.2. The Function and Connection of Filter Valve PC Board

A. The main function of control board connector, as figure 4 shows:

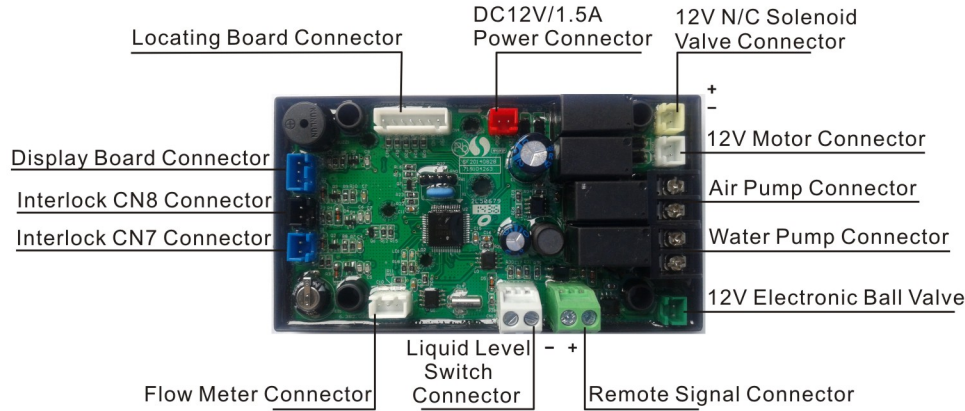
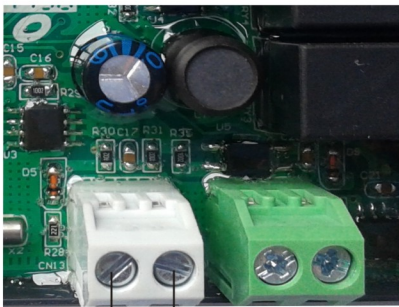


Figure 4

B. Wiring of liquid level switch as figure 5 shows:

C. Wiring of remote signal as figure 6 shows:



Liquid Level Switch

Figure 5



GND DC5-24V

Figure 6

D. Working electricity less than 5A air pump wiring as figure 7 shows:

E. Working electricity less than 5A water pump wiring as figure 8 shows:

F. Power supply greater than 5A air pump wiring as figure 9 shows :

G. Power supply greater than 5A water pump wiring as figure 10 shows :

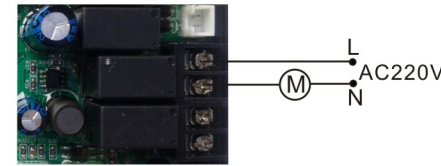


Figure 7

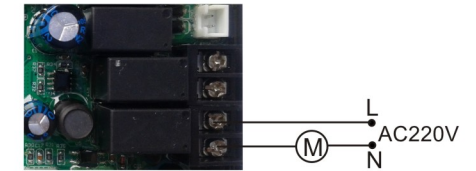


Figure 8

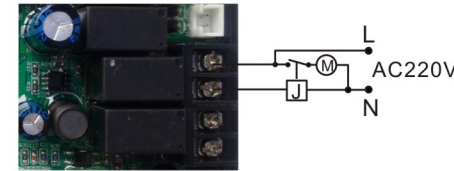


Figure 9

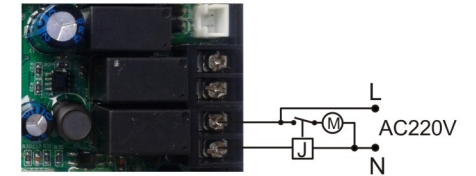


Figure 10

H. Interlock system wiring as figure 11 shows:



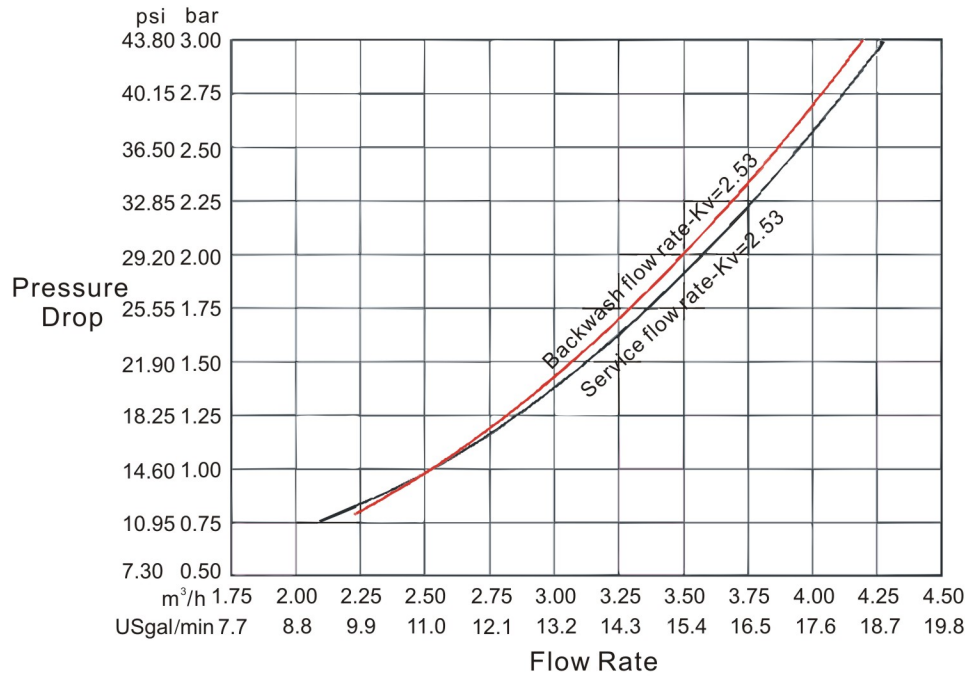
Figure 11

2.3. System Configuration and Flow Rate Curve

A. Product configuration with tank, filter material volume and oil free air compressor.


Filter/ Aeration Tank Size	Filter Material Volume (L)	Service Flow Rate (m ³ /h)	Backwash Flow Rate (m ³ /h)	Oil Free Air Compressor (KW)	Water Inlet Pressure (MPa)
08×44	19	1	2.4	0.55	0.2
10×54	40	1.5	3.6	0.55	0.3
12×54	57	2.0	4.8	0.55	0.4

B.Flow rate characteristic




- 2.4.Parameter Enquire and Settings See Filter Valve F67C3 User Manual
- 2.5.Trial Running

Make sure if all the joint line systems are not leaking after water pressure test, set up the backwash time of filter valve as long as possible, begin trial running according to next steps.

A.Switch on power of filter valve. Press , and go in the Backwash position, the water pump, air pump is open status.

B.Adjust the compressed air pressure reducing valve, let inlet air pressure (See pressure gauge on Figure 1) lager than inlet water pressure(See water pressure gauge on Figure 1) 0.05MPa is best.

C.Ensure the opening degree of air inlet adjusting valve in Figure 2 is no more than one cycle. The default setting in factory is a quarter cycle. Depending on the iron and manganese removal effect to adjust the air inlet volume.

D.Wait until the water is clear after Backwash, press , and go in the Fast Rinse position.

E.According to trail running situation, reset each parameter and put into service.

• 2.6.Trouble-Shooting

A.Filter valve please see F67C3 user manual.

B.Iron and Manganese Removal Device

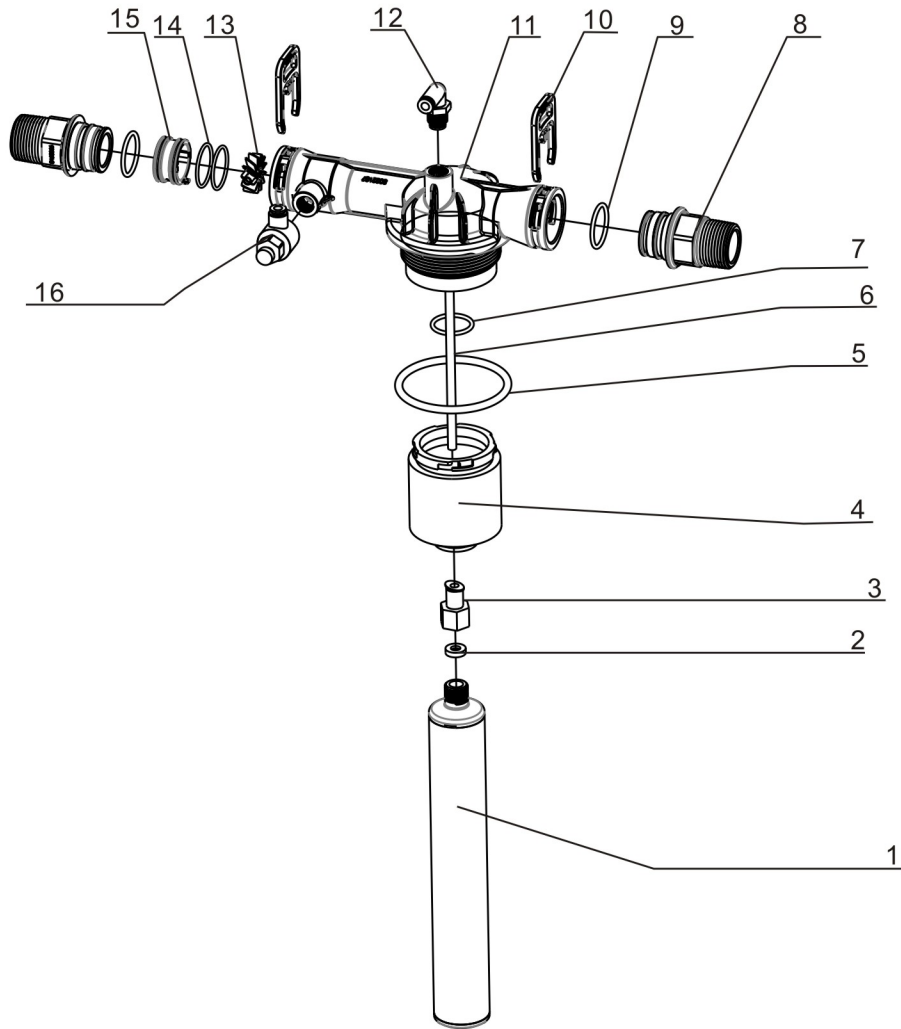
1.Outlet iron or manganese containing out of limitation.	A.Less air inflow. B.No compressed air into aeration. C.High iron or manganese containing in raw water.	A.Enlarge the opening degree of air inlet adjusting valve. B.Check if air in the air pump. If there is air please turn up inlet air pressure. C.Use second grade of iron and manganese removal device.
2.Low backwash flow rate.	A.Filter material include tiny filter particles, block top strainer in filter tank. B.Unreasonable service or backwash parameter lead to filter tank iron manganese sediment agglomerate. C.Top or bottom strainer in filter tank failure, filter valve flow passways was blocked by filter material.	A.To upgrade filter material and clean filter tank top strainer. B.Change filter material, reset service parameter. C.Clean filter valve and change top or bottom strainer in filter tank.
3.Low service, fast rinse flow rate.	A.Filter material include tiny filter particles, block bottom strainer in filter tank. B.Unreasonable service or backwash parameter, lead to filter tank iron manganese sediment agglomerate. C.Top or bottom strainer in filter tank failure, filter valve flow passways was blocked by filter material.	A.To upgrade filter material, and clean filter tank top strainer. B.Change filter material, reset service parameter. C.Clean filter valve and change top or bottom strainer in filter tank.

Note: In order to ensure the system operate steadily. Please set up reasonable service, backwash parameter, iron and manganese sediment will be drained timely out of the tank.

• 2.7.Assembly & Parts

A.Filter valve exploded drawing and assembly & parts list please see F67C3 user manual.

B.Aeration exploded drawing



Assembly & Parts

Item No.	Description	Part No.	Quantity
1	Air Release Valve	5467004	1
2	Seal Ring	8371011	1
3	Connector	5455003	1
4	Top Strainer	8339030	1
5	O-ring	8378143	1
6	Tube	8457095	4
7	O-ring	8378078	1
8	NPT Elbow Connector	8458065	2
9	O-ring	8378081	2
10	Clip	8270004	2
11	Valve Body	5022081	1
12	Tube Connector	8457094	1
13	Impeller	5436003	1
14	O-ring	8378232	2
15	Distributor	8339039	1
16	One-way Throttle Valve	5467005	1


3. Warranty Card

Dear client:

This warranty card is the guarantee proof of RUNXIN brand iron and manganese removal device. 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	 Iron and Manganese Removal Device			
Model		Code of Valve Body		
Purchase Company Name		Tel/Cel.		
Problem				
Solution				
Date of Repairing		Date of Accomplishment		Maintenance Man Signature

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

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

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