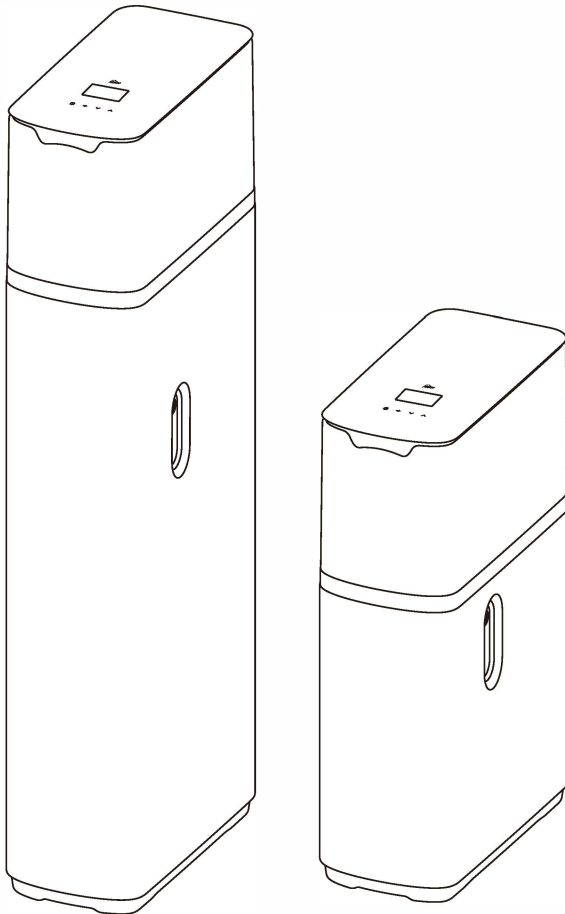


Haiao

BEIJING HAI AO TECHNOLOGIES CO., LTD

Water Softener

Model HF3



Service Manual

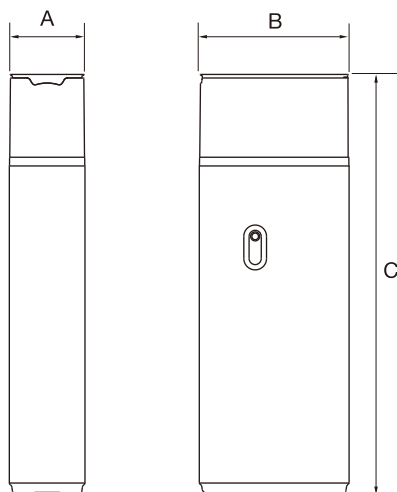
Contents

Specifications and models.....	01
Water softener exploded view.....	02
Water softener Item list.....	03
Installation.....	04
Display Introduction and Feature.....	06
Programming Mode Setting.....	07
Low Salt Alarm and Troubleshooting.....	10

Specifications and models

• Outline Size

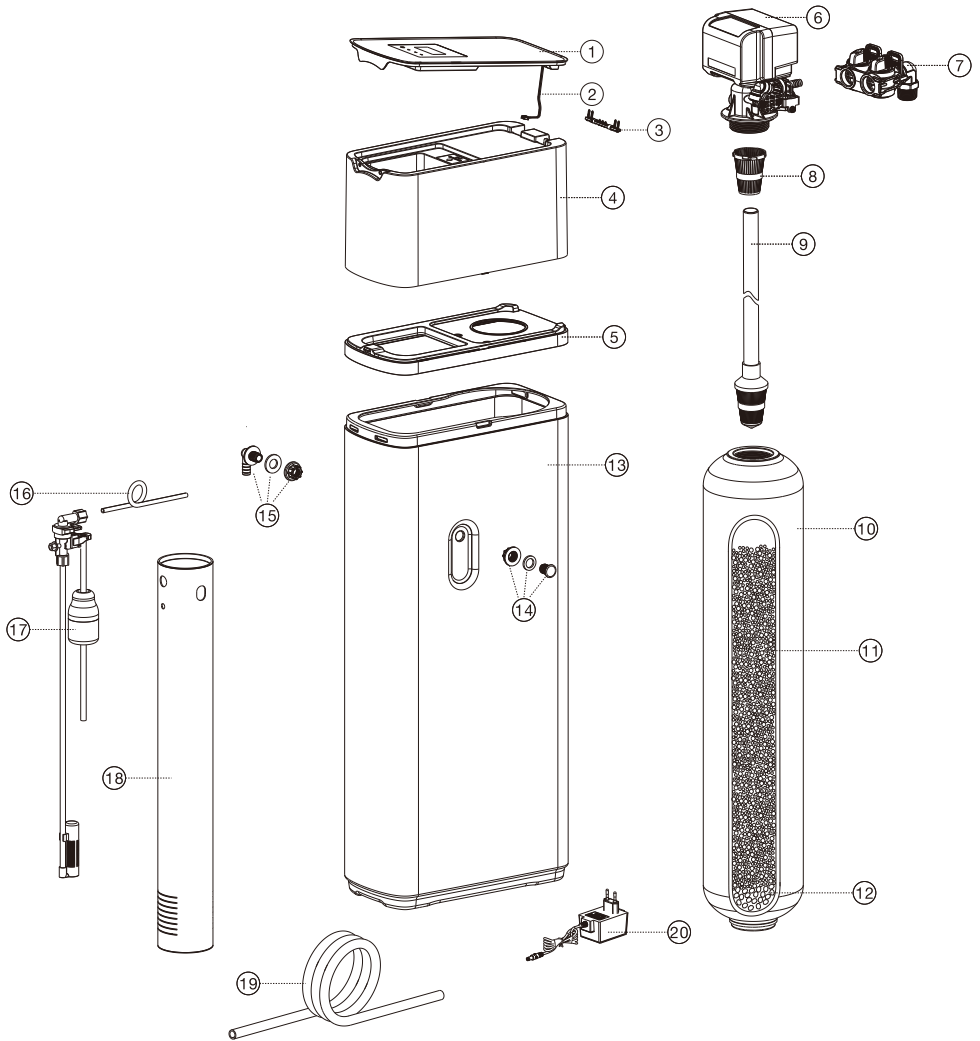
Model	A (mm)	B (mm)	C (mm)
HF3-35	200	400	1122
HF3-17	200	400	662



• Technical parameter

Model	HF3-35	HF3-17
Control Valve	Automatic Control valve	Automatic Control valve
Media Tank Dimensions (D x H)	07X35 (inch)	07X17 (inch)
Operating Pressure (MPa)	0.1~0.8	0.1~0.8
Salt Storage Capacity (kg)	23	13
Rated Service Flow (M ³ /H)	0.5~4.3	0.5~4.3
Operating Temperature (°C)	3~40	3~40
Electrical Requirements	220VAC, 50Hz	220VAC, 50Hz
Rated power (W)	7.2	7.2
Exchange Media	Food grade strong acid cation exchange resin	Food grade strong acid cation exchange resin

Water softener exploded view



Water softener Item list

NO.	Name	Description	Quantity
1	Flip over assembly		1
2	4 PIN line		1
3	Damper		1
4	Upper cover		1
5	Bracket		1
6	Control Valve	Automatic Control valve	1
7	Bypass Valve		1
8	Top distributor		1
9	Riser tube & Bottom distributor assembly	HF3-17 - 417 mm	1
		HF3-35 - 875 mm	
10	Pressure tank	0717(inch)	1
		0735(inch)	
11	Exchange resin	Food grade strong acid cation exchange resin	
12	Quartz sand	HF3-17 - No fill	
		HF3-35 - Filled	
13	Housing	HF3-17 - 438 mm	1
		HF3-35 - 897 mm	
14	Overflow plug assembly		1
15	Overflow assembly		1
16	Brine line polytube	3/8"	1
17	Brine valve assembly	HF3-17 - 1600 / N-350 mm	1
		HF3-35 - 1600 / N-680 mm	
18	Brine well assembly	HF3-17 - 342 mm	1
		HF3-35 - 725 mm	
19	Overflow pipe & Sewage pipe		1
20	Transformer , EU plug	220/24VAC - 50 Hz	1

Installation

• Disassemble the Upper cover assembly

- 1) Pull out the 4 PIN Line from the control valve. (fig.1)
- 2) Pull open the upper cover assembly from the back, it can be disassembled to reveal the control valve. (fig.2)

• Install Bypass Valve

Use screwdriver to loosen the screw and connection clamp fixed at the back end of the control valve seat. (fig.3)

Select the bypass valve in the packing box. Install the bypass valve in the direction shown, fix and lock the screw with the connection clamp. (fig.3)

• Installation of sewage pipe

Intercept hose of appropriate length and connect to sewage pipe connector and fasten with hoop. The other end of the hose is connected to a suitable drainage point, such as floor drain, sink, washing basin. (fig.3)

• Installation of overflow pipe

Intercept hose of appropriate length, one end connected to overflow joint and fasten with hoop, Connect the other end of the hose to the floor drain. (fig.3)

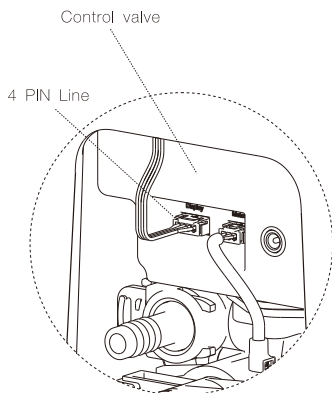
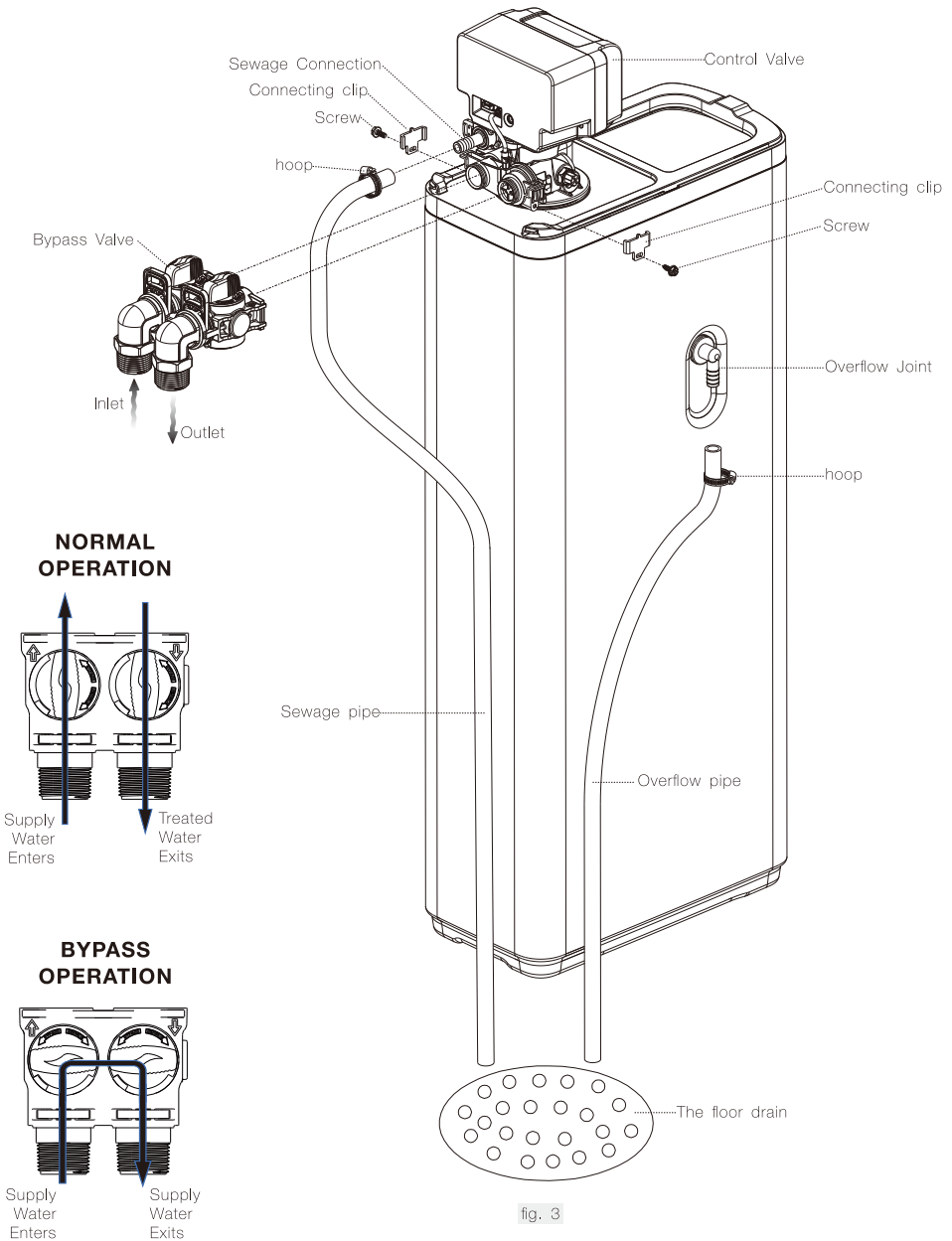


fig. 1



fig. 2

Installation (Cont'd)



Display Introduction and Feature



SETTING BUTTON ⚙️

- When the button is flashing, Press and hold the button for 5 seconds to enter Programming Mode.
- When the valve is in Programming Mode, Press the button return last display.
- Press and hold the button for 5 sec under any display, back to service display.

RIGHT BUTTON ➡️

- When the button is flashing, Press and hold the button for 5 seconds to start immediate regeneration manually.
- Press the button during a Regeneration Cycle to immediately advance the valve to the next cycle step position and resume normal step timing.
- When the valve is in Programming Mode, press the button to move the cursor.

DOWN BUTTON ▼

When the valve is in Programming Mode, press Down Button to adjust setting.

UP BUTTON ▲

When the valve is in Programming Mode, press Up Button to adjust setting.

When the setting button is flashing, double-click the button to reset all parameters to factory defaults. (Within 3 minutes after the water softener is powered on)

Programming Mode Setting

When  is flashing, press and hold the button for 5 seconds.

Press "→" to enter the display for current time and week setting

TIME OF DAY	SET TIME OF DAY AND DAY OF WEEK:
REGENERATION TYPE	
UNIT OF VOLUME	Default: 08:00 SUN
REMAINING VOLUME	
DAY OVERRIDE	
REGENERATION TIME	08:00 SUN

Press "→" to enter regeneration type setting

TIME OF DAY	SET REGENERATION TYPE:	SET REGENERATION TYPE:
REGENERATION TYPE	METER DELAYED	METER IMMEDIATE
UNIT OF VOLUME	TIME CLOCK DELAYED	
REMAINING VOLUME	DAYS OF WEEK	
DAY OVERRIDE	HOURS DELAYED	
REGENERATION TIME		Default: Meter Delayed

Press "→" to enter Unit of Volume setting

TIME OF DAY	SET UNIT OF VOLUME:
REGENERATION TYPE	
UNIT OF VOLUME	U.S.-GALLONS
REMAINING VOLUME	METRIC -LITERS
DAY OVERRIDE	METRIC -M3
REGENERATION TIME	Default: METRIC-LITERS

Press "→" to enter Remaining Volume setting

TIME OF DAY	SET REMAINING VOLUME:
REGENERATION TYPE	
UNIT OF VOLUME	
REMAINING VOLUME	010000
DAY OVERRIDE	LITERS
REGENERATION TIME	Default: 1000L Range: 1~99999 gallons 1~999999 liters 0.01~999.99 M3

Press "→" to enter Day Override setting

TIME OF DAY	SET REGENERATION DAY OVERRIDE:
REGENERATION TYPE	
UNIT OF VOLUME	
REMAINING VOLUME	
DAY OVERRIDE	OFF
REGENERATION TIME	DAYS
	Default: OFF Range: 01~99 days or OFF

Press "→" to enter Regeneration Time setting

TIME OF DAY	SET REGENERATION TIME:
REGENERATION TYPE	
UNIT OF VOLUME	
REMAINING VOLUME	
DAY OVERRIDE	
REGENERATION TIME	02:00
	Default: 02:00

Programming Mode Setting (Cont'd)

Press "→" to enter Regeneration Cycle Step Times setting



The displays in below will be changed according to the brine flow direction set.



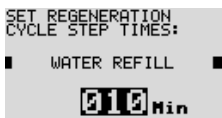
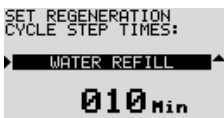
BACK WASH
 Default: 10 mins
 Range: 1~999 mins



BRINE DRAW
 Default: 60 mins
 Range: 0~999 mins



RAPID RINSE
 Default: 12 mins
 Range: 0~999 mins



WATER REFILL
 Default: 10 mins
 Range: 1~999 mins

Press "→" to enter Low salt alarm setting



Default: OFF
 ■ ON



BRINE LINE FLOW CONTROLS
 Default: 0.5 GPM
 ■ 0.125 ■ 0.25 ■ 0.5 ■ 1.0



Set the unit of salt
 Default: KG
 ■ LBS



Set the amount of added salt
 Range: 1~453 KG
 2~999 LBS

Programming Mode Setting (Cont'd)

Press "→" to enter Language setting

Default: English

Deutsch French Italian Spanish Russian Polski Dutch Danish

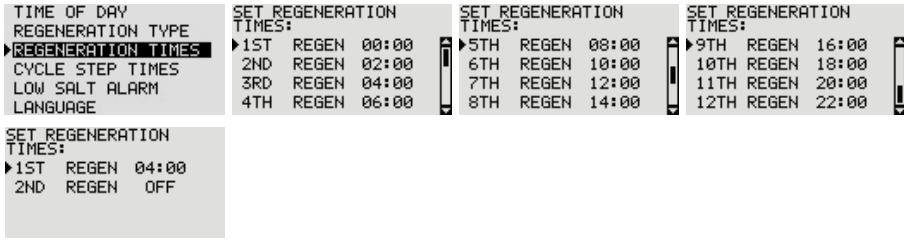


If the Regeneration Type is set to Hours Delayed

Press "→" to enter Regeneration Times setting

Default: 12 cycles regeneration every 24 hours.

Close any regeneration time except first line, others will be closed.

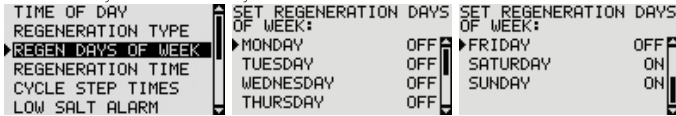


If the Regeneration Type is set to Days of Week

Press "→" to enter Regeneration Days of week setting

Default: Monday OFF Tuesday OFF Wednesday OFF Thursday OFF Friday OFF

Saturday ON Sunday ON



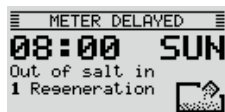
Note: after setting up or under any Settings menu, press the Settings button for at least 5 seconds, The system saves parameters and returns the working interface.

Low Salt Alarm and Troubleshooting

• LOW SALT ALARM

When the low salt alarm function is turned on:

- When the amount of remaining salt meets only one regeneration, a low salt alarm will be triggered.



Low salt alarm screen display

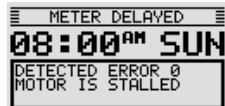
- After the alarm is triggered, the buzzer will sound from 9 to 11 and from 14 to 21.
- When the buzzer alarm sounds, when the screen back light is on, press any key to cancel the sound.(However, the second day will still ring during the specified time period).
- In addition to the parameters that need to be set for the initial salt addition, every time you add salt in the future, you can directly enter the salt addition interface to enter the actual salt weight.

CAUTION: Regardless of whether an alarm message appears on the screen, be sure to enter the salt weight after each salt addition.

• TROUBLESHOOTING

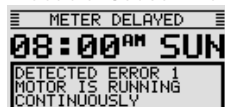
DETECTED ERROR 0

Probable Cause: Motor is stalled.



DETECTED ERROR 1

Probable Cause: Motor is running continuously.



Recover and Resetting: Unplug the device from the power source, and when the device returns to power, the screen display code clears.

If the condition that caused the error has not been resolved, the error code will reappear on the screen. Do not attempt to further resolve this issue.



BEIJING HAI AO TECHNOLOGIES CO., LTD

📍 Rm 201 Building H,
23 Chaoqian road,
Changping Science Park,
Changping district,
Beijing, China

☎ +86 (010) 6972 9759

✉ Info@haiaotech.net

🌐 www.haiaotech.net

