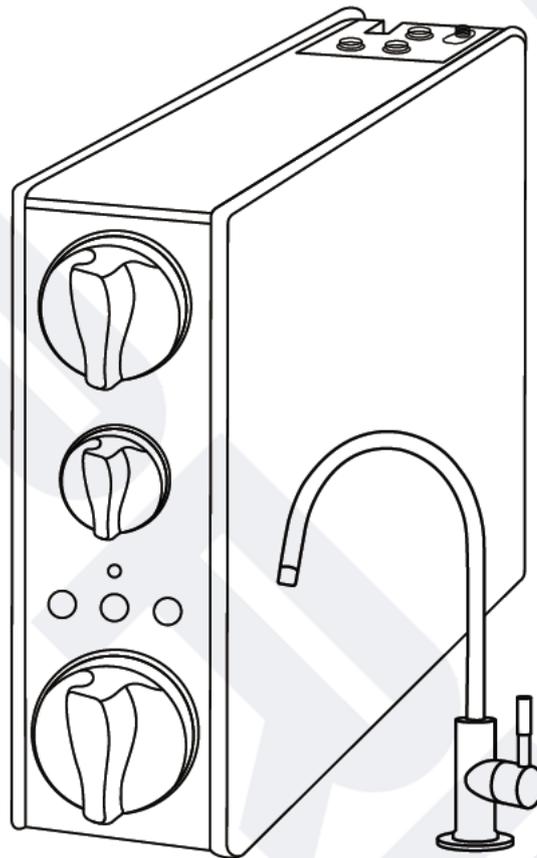


**UNDER SINK**

# **iSpring RO500 Series Tankless Reverse Osmosis Water Filtration System**



Model: RO500-BN/ RO500-ORB/ RO500AK-BN/ RO500AK-ORB

## **Installation Instructions & User Manual**

Ver. 10/2022



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*We stand behind our products*

Since 2005, iSpring has been dedicated to providing high-quality drinking water to families across the United States. We provide various residential faucets and water filtration systems that purify your water in everyday life and deliver pure, healthy, and tasty water to you and your family.

At iSpring, we strive to develop products to the highest of standards and aim to make excellent drinking water accessible for all households. With affordable pricing, reliable quality, prompt delivery, and top-notch customer service, we hope to assist in bringing you great water for years to come.

## **Prior to Installation**

**Read this instruction manual carefully prior to installation.**

**Keep this manual readily available for future reference.**

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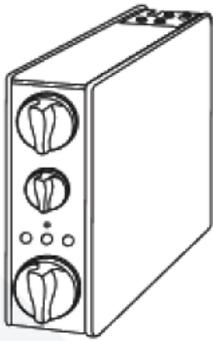
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## **User Information**

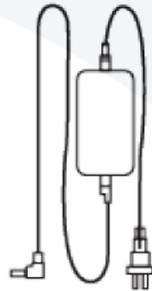
Users must adhere to the installation specifications described in this Product Installation and Operation Manual (hereinafter referred to as the "instruction manual"). iSpring is not responsible for any damage, loss, or injury resulting from neglect, improper maintenance, or unauthorized modification of products.

- The unit should be placed only on flat surfaces. Do not mount the product on a wall.
- This product is designed for residential use only. Contact iSpring customer service for inquiries related to usage in non-residential settings.
- The operating temperature range is 41°F - 100°F. If the water temperature or ambient temperature falls below 41°F, immediately shut off the inline water supply, turn off the inline water adapter, and drain the remaining water from the system.
- In case of malfunction due to damage or failure of the power supply system, unplug the system immediately and contact iSpring customer service for guidance.
- If leaking occurs, shut off the inline water supply by turning off the adapter. Then unplug the system and contact iSpring customer service.
- Use only authorized iSpring parts and filters. Using unauthorized or aftermarket components will void the product warranty.
- This product is equipped with built-in systems to prevent internal leaks and minimize the risk of water damage. However, it is recommended that users check external fittings and connections regularly to ensure all components are secure and operating properly.
- Unauthorized modification and disassembly are strictly prohibited and will void the warranty.
- Never touch the power cord connector when your hands are wet, as this may result in electric shock.
- Use only water to clean this product. Do NOT use corrosive cleaning products or any materials that could damage the product.

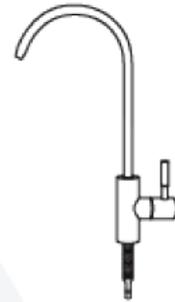
## Component Identification



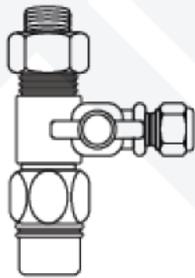
System with Filters



Power Supply



RO Drinking Faucet



Feed Water Adapter



1/4" and 3/8" PE Pipe



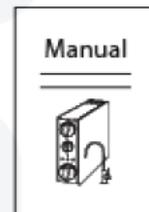
Drain Saddle



1/4" C-Clip



3/8" C-Clip



Instruction Manual

## Product Features

### 1) Product Scope

- A. For residential use ONLY.
- B. Applicable water quality: municipal.

### 2) Water Treatment Process

Municipal tap water → Composite filter → Reverse osmosis filter → Post-activated carbon filter (Alkaline filter on RO500AK model only) → Purified water

### 3) Filtration Performance

Stage	Filter	Purpose
1 <sup>st</sup>	Composite filter	Removes unpleasant chlorine, taste, odors, cloudiness and coloring.
		Removes dirt, sand, silt, rust, and scale particles and absorbs THMS and pesticides.
2 <sup>nd</sup>	Reverse osmosis membrane	Removes lead (removes up to 98% of lead), chlorine, fluoride, arsenic, hormones, asbestos, calcium, sodium, and more using a 0.0001 (one ten-thousandth) micron membrane.
3 <sup>rd</sup>	Carbon block filter	Further enhances the sense and taste of the water.
	Alkaline Filter (On RO500AK model only)	Adding back essential minerals, while enhancing the water taste.

### 4) Specifications

	Specification
Working Pressure	15 - 70 psi
Working Temperature	41 - 100°F
Flow Rate of Purified Water	Up to 0.4 gal/min.
Power Specifications	Input: 100 - 240 V AC
	Output: 24 DC

### 5) Filter Service Life Table:

Stage	Filter	Recommended replacement cycle
1 <sup>st</sup>	Composite Filter	6 months
2 <sup>nd</sup>	Reverse Osmosis Membrane	24 months
3 <sup>rd</sup>	Carbon Block Filter	12 months
	Alkaline Filter	

**Note:** The actual water flow rate will vary depending on several factors such as water quality, high TDS (500 ppm+), low temperatures (below 55°F), and low pressure (below 25 psi). These will limit the performance of the system and reduce filter life.

## Product Structure and Size

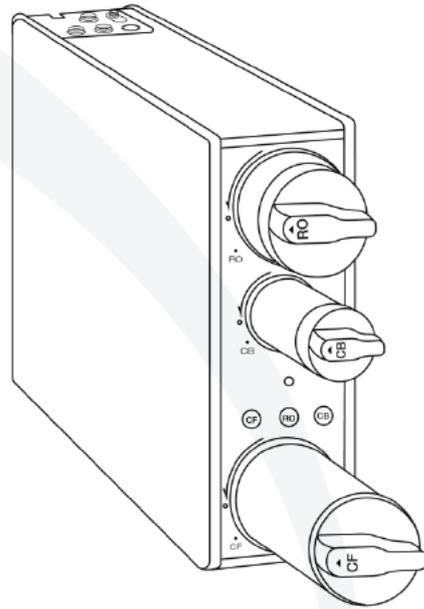
### 1) Product Overview

First-stage composite filter (CF)

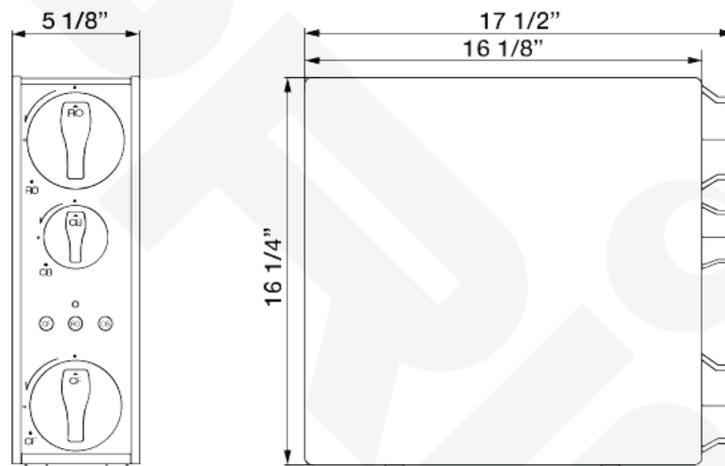
Third-stage carbon block filter (CB)

("CA" Alkaline filter on RO500AK models)

Second-stage reverse osmosis membrane (RO)



### 2) Dimensions



## Filter Life Indicator

The filter life indicators are controlled by a timer and flow monitor.

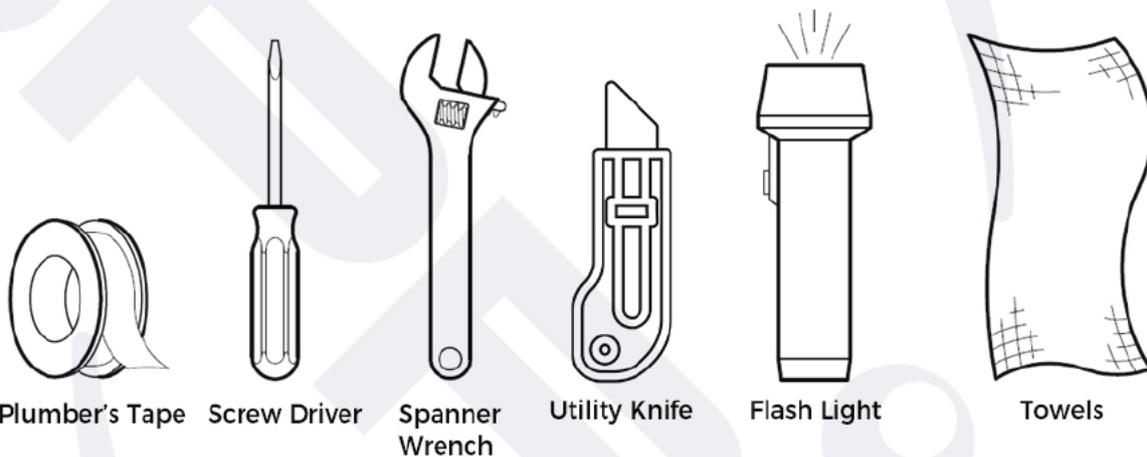
**Change the filter when the light runs red.** To reset the indicator after filter replacement, see "Filter Serve Life Reset".



## **Installation**

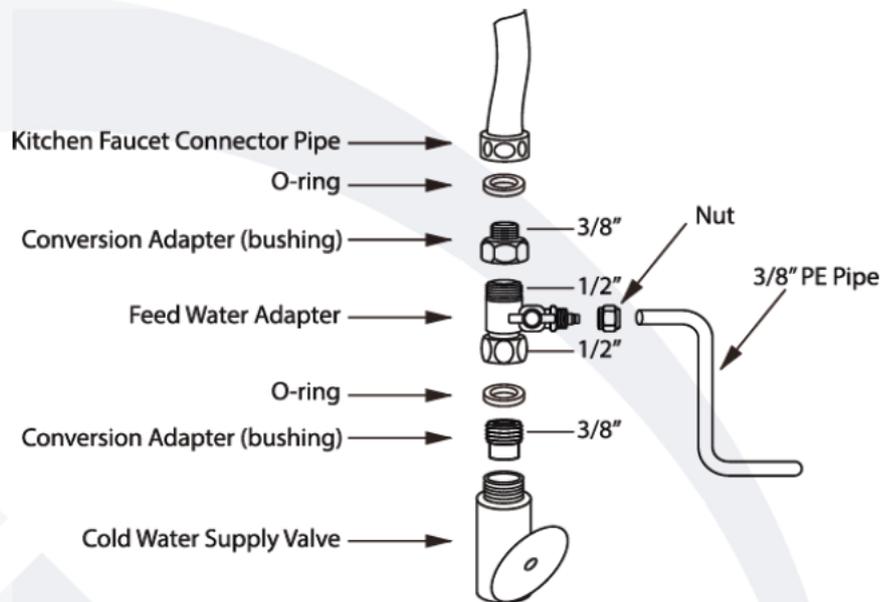
### **1) Preparation**

- A. It is strongly recommended to watch the video "iSpring RO500 Tankless RO Reverse Osmosis 500 GPD Water Filtration System DIY Installation" on Youtube.com prior to installation.
- B. Choose a suitable location for the system. Again, it cannot be mounted and must be placed on a flat surface and make sure this system is to be installed on INDOOR cold-water supply ONLY.
- C. Check the packing list to confirm all accessories are included in the package. Contact iSpring customer service if any components are missing.
- D. Required tools:



### **2) Feed Water Adapter Installation**

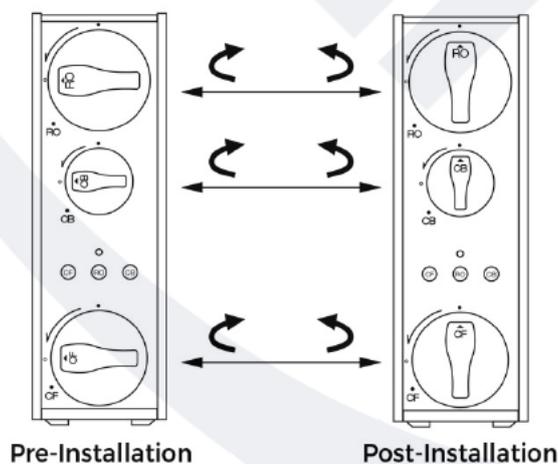
- A. Turn off the cold-water supply valve and unscrew the kitchen faucet connector pipe.
- B. Install the feed water adapter on the cold-water supply valve and tighten with a spanner wrench: (make sure the O-ring is seated inside the adapter).
- C. Re-install the cold-water hose on the feed water adapter, then tighten with a spanner wrench (make sure the O-ring is seated inside the hose cap).



### 3) Filter Installation

This product features an easy-changing design that allows users to change the filter without shutting off the water supply. To install the filter, follow the steps listed below.

- A. Remove the **COVERS** on the upper end of each filter.
- B. Install each filter in the appropriate slot with the name of the filter listed on the side.
  - 1) The composite filter is mounted to the bottom slot.
  - 2) The reverse osmosis membrane is mounted to the top slot.
  - 3) The post carbon filter or alkaline filter is mounted to the slot located in the middle.
- C. Insert the filters with the handles pointed outward. Align the arrow with the "unlocked" mark on the side of the slot. The filter should fit snugly into the system's fittings. Turn the filters clockwise until the arrow on each filter is aligned with the mark on the top of the slot.



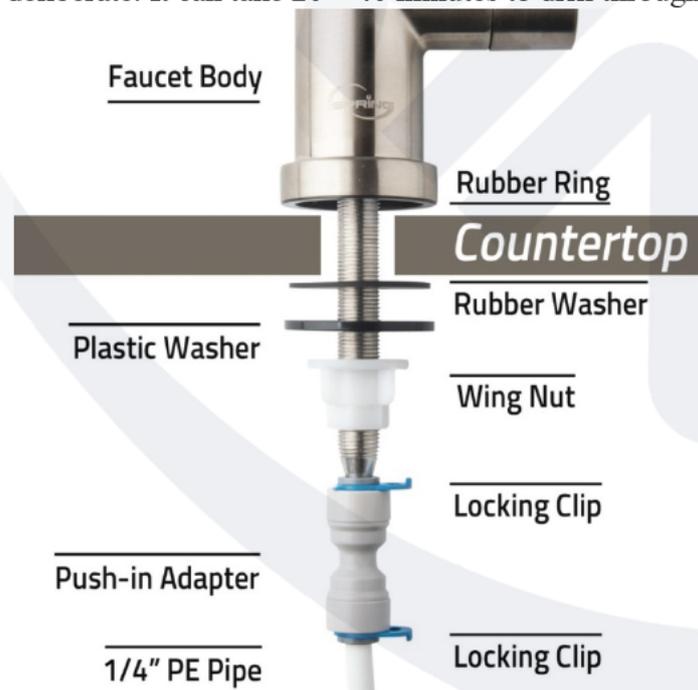
#### 4) Faucet Installation

Choose a suitable location on the sink or countertop and install the faucet on a flat surface, as shown in the image below. You will need to drill a 1/2" hole (no larger than 1 1/2") if your kitchen sink does not have an existing one.

##### *How to drill a 1/2" hole in your sink or countertop*

- a. It is highly recommended that users watch the YouTube video "**How to Drill Faucet Holes**" to better understand this process. Depending on your countertop, you may want to hire an experienced professional to ensure the hole is drilled correctly.
- b. Choose a 1/2" Diamond Core Bit for granite counters and a titanium drill bit for steel. Do NOT use a hammer drill on natural stone, glass, and ceramic.
- c. An indent should be made with a punch on the steel before drilling to help guide the bit.
- d. Use caution when drilling on a Porcelain sink, as it could be easily chipped. Set drill speed to slow. Press the bit downward firmly until breaking through the slippery surface. Some users find it easier to secure the bit by drilling through a piece of wood firmly pressed on the surface.
- e. Use coolant to disperse heat. Choose water for granite and oil for steel. Use the Water Suction Cup to hold the coolant inside and prevent the drill bit from slipping.
- f. Starting at the slowest speed, hold the drill firmly and vertically and prevent the drill bit from slipping on the counter.
- g. Once breaking through the smooth surface, swirl the drill slightly to evenly apply pressure in a circle.

Be patient and deliberate. It can take 20 – 40 minutes to drill through 1".



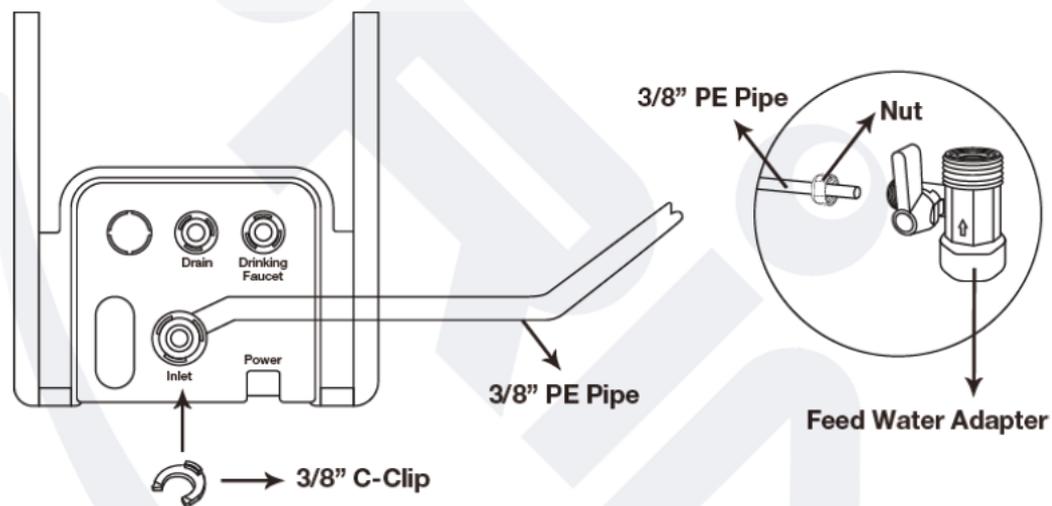
## 5) System Installation and Setup

### Precautions

- Make clean cuts on the tube to ensure a tight, sealed connection.
- Insert each pipe about 1/2" into the port to prevent leaks.
- Always use the C-clips to secure the quick-fitting connections.
- After assembly, check to ensure the connection is not leaking.

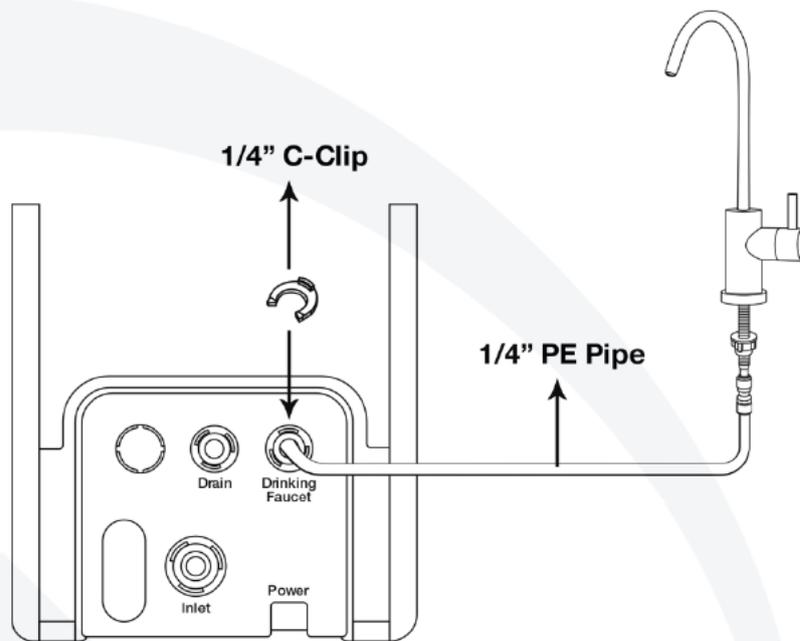
### Inlet Water Pipeline Installation:

- A. Cut the WHITE 3/8" PE pipe, which is connected to the feed water adapter, to the appropriate length using a utility knife.
- B. Insert one end of the tube into the feed water adapter. Tighten the nut using a spanner wrench.
- C. Insert the other end of the WHITE tube into the 3/8" port marked "Inlet" at the top of the system. Secure the connection by inserting the enclosed 3/8" C-clip.



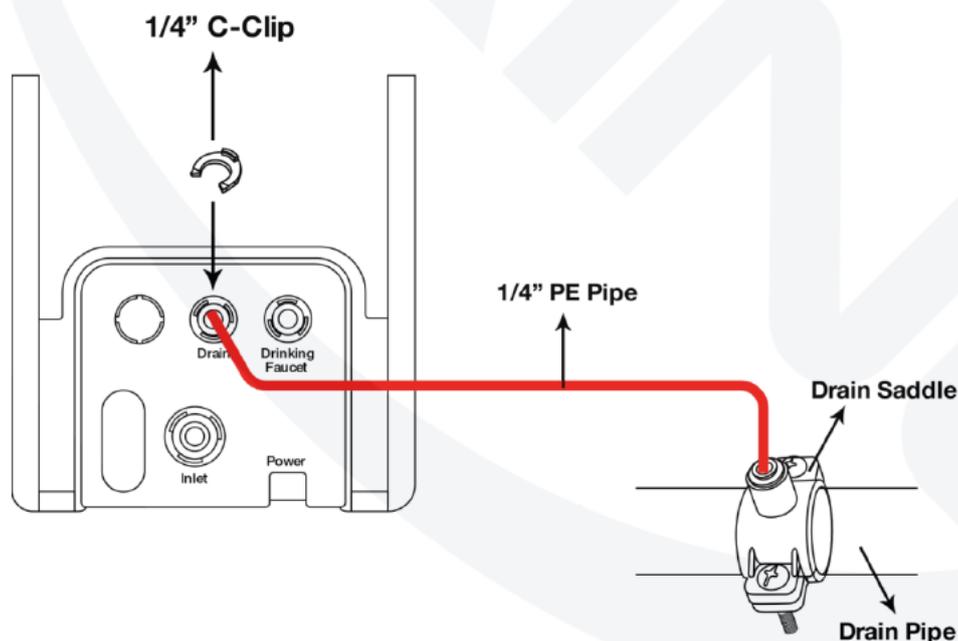
### Drinking Faucet Pipeline Installation:

- A. Cut the 1/4" WHITE tubing with a utility knife to the appropriate length.
- B. Insert the WHITE tubing into the 1/4" port marked "Faucet". Insert the 1/4" C-clip to lock the connection.
- C. Insert the other end of the 1/4" WHITE tubing into the push-in fitting of the drinking faucet and secure it using the 1/4" C-clip.



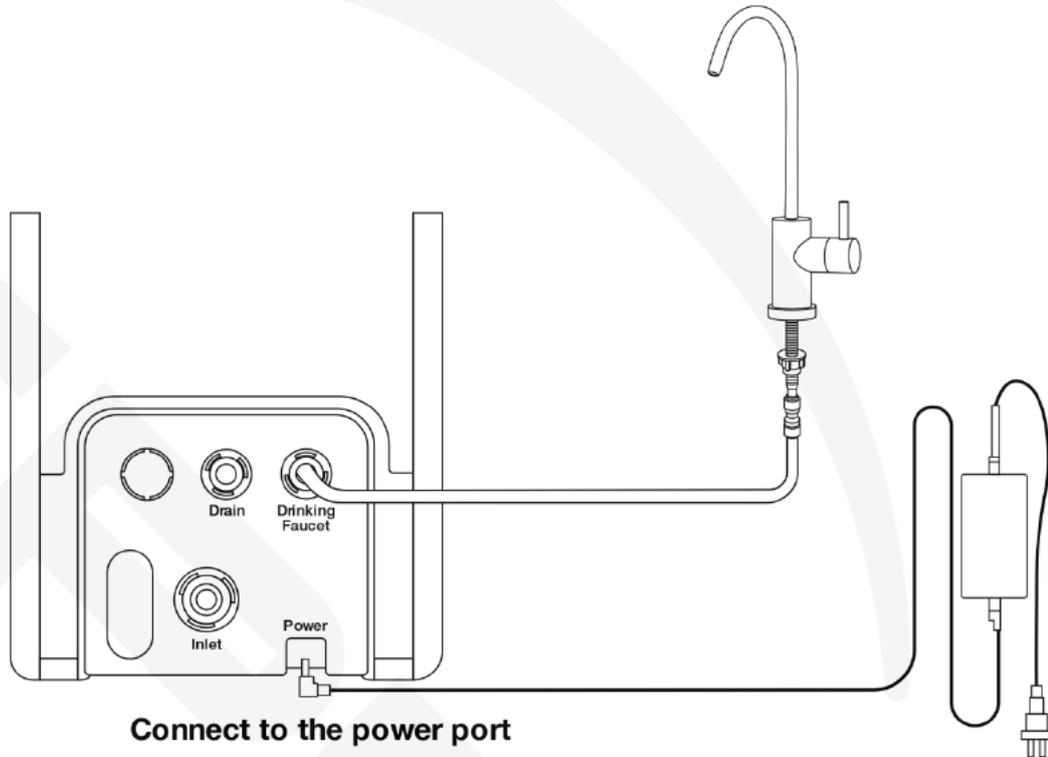
**Drain Pipeline Installation:**

- A. Choose a spot on the drainpipe that is convenient for installing the drain saddle and tubing. A horizontal pipe is recommended to minimize dripping sounds during use.
  - B. Drill a 1/4" hole in the drainpipe and paste the black sticky pad around the hole.
  - C. Cut the 1/4" **RED** tubing end tip to make a 45-degree angle. Insert the tubing through the hole to the drainpipe. Then install the backplate and tighten the two screws with hex nuts while the tubing remains in the hole. Pull the tubing lightly to verify it is securely in place.
- Note:** The YouTube video "iSpring RO System Drain Saddle ADS1K DIY Installation" is a good reference.
- D. Insert the other end of the 1/4" **RED** tubing to the port marked "Drain" at the top of the system and secure it using the 1/4" C-clip.

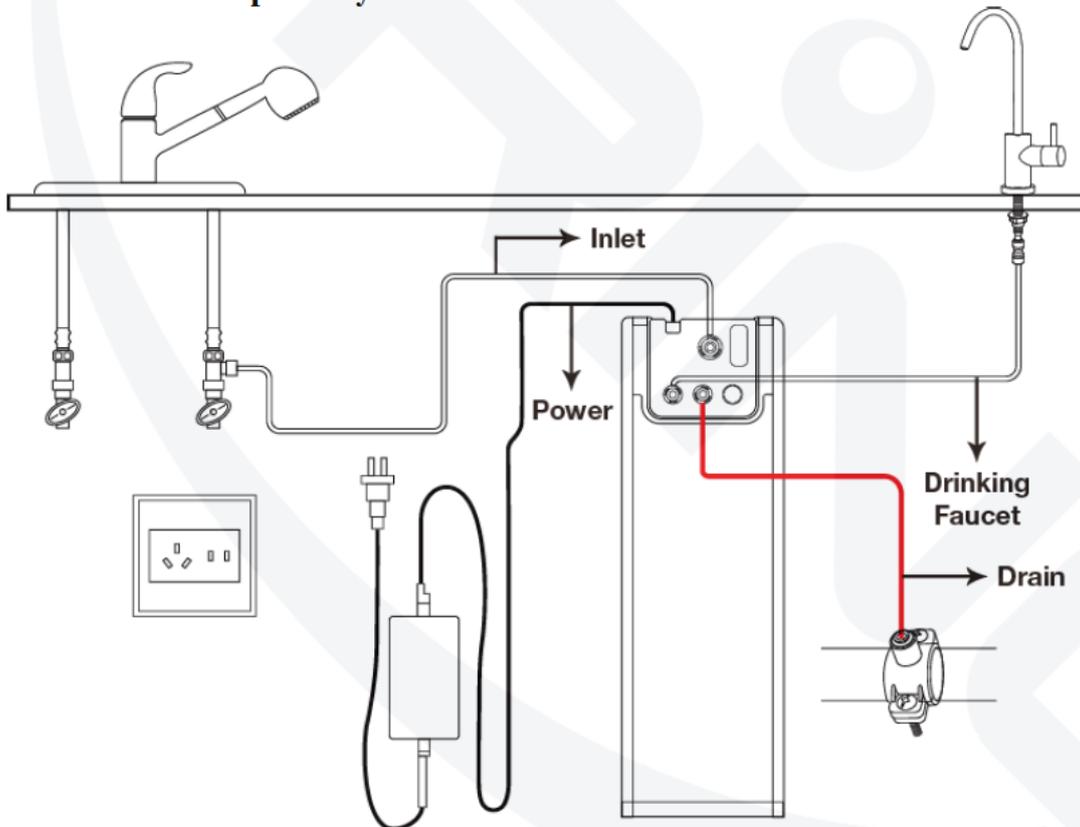


## 6) Connect Power Supply

Connect the power adapters as shown below. Plug in the main power supply to the "Power" socket on top of the system. The installation is now completed.



The completed system connection should be as shown below.



## Using the System

### 1) Starting for the First Time

- A. To start the system, plug it in, turn on the feed water adapter, then turn on the faucet. Vibrations can be expected as the pump starts.
- B. Rinse the RO membrane for 5 minutes.
- C. Turn on the faucet and let it run for at least 30 minutes to flush the system. This should be done each time the filters are changed.
- D. During this time, carefully check all fittings for a secure connection. Use a damp paper towel to wipe clean and verify that no connections are leaking.
- E. Once the rinsing is completed, turn the faucet off and check again for leaks. If no leaks are present, the system is ready for use.

### 2) Routine Maintenance

- If you plan on not using the system for one week or longer, take out the filter and seal it with plastic wrap. Store the sealed filter in the fridge to protect the system against microbiological growth. To start the system again after the period of non-use, flush the system for at least 10 minutes OR change the filters.
- If you will not use the system for two weeks or longer, disconnect the water supply, drain the system, and disconnect the power.
- Follow the recommended filter replacement schedule. Replace the filter any time the indicator is on. Note that the actual filter life depends on the family size and water source quality. Failure to replace the filter at the appropriate times can damage the system and potentially cause health hazards.

### Precautions for Changing the Filters

- A. Unscrew the filter to be replaced counterclockwise and relieve the pressure.
- B. Screw the corresponding replacement filter into each slot.
- C. After replacing the filter, flush the system by running the water for at least 30 minutes after installing a new filter(s).
- D. Reset the filter status. Please refer to the "**Filter Service Life Reset**" part.

### 3) Fault Codes

Type	Reminder		Solution
	Display code	Buzzer	
E1: Water shortage prompt	The working light flashes red once per second. Filter CF Filter flashes blue once per second.	When the user runs water, the machine will buzz three times.	Once the inlet water pressure returns to normal, the water shortage prompt is automatically reconciled, and the machine resumes regular operation.
E2: Water leakage protection	The working light flashes red once per second. Filter RO Filter flashes blue once per second.	The buzzer will sound for 3 minutes.	Identify leakage source. Once corrected, the product automatically returns to regular operation.
E3: Timeout protection for continuous pump operation	The working light flashes red once per second. Filter CB/CA Filter flashes blue once per second.	The buzzer will sound four times.	Reconnect to the power supply.
E4: Start-stop protection for frequent pumping	The working light flashes red once per second. Filter CF+RO Filter flashes blue once per second.	The buzzer will sound five times.	Reconnect to the power supply.
E5: Low-temperature protection	The working light flashes red once per second. Filter CB/CA+RO Filter flashes blue once per second.	The buzzer will sound six times.	Reconnect to the power supply.

### 4) Filter Service Life Indicators

Service Life Stage	Remaining Life (Days)	Remaining Capacity (net water/liter)	Prompt	
			Indicator Color	Buzzer
Normal	> 15	> 150	Blue	None
Warning	0 - 15	0 - 150	Purple	Sounds twice.
Alarming	0	0	Red	Sounds when water is flowing.

## 5) Machine Function Description

No.	Function	Operation	Working Light Status
1	Rinsing Prior to the First Use	The system performs auto-rinsing for 5 minutes, then the user rinses the system by running water for 30 minutes. <b>Note:</b> If the faucet is turned off during the 30 minutes rinsing process, it will continue rinsing when turned on next until it reaches 30 minutes.	While rinsing, the working light flashes. After rinsing is complete, it remains on continuously and is off when the drinking faucet is turned off.
2	Re-powering On	System performs self-inspection and auto-rinsing. <b>Note:</b> The system will switch to its normal mode if the user runs water during the rinsing process.	The working light flashes during rinsing and stops when rinsing is complete.
3	Rinsing After Cumulative Use	If the RO pump accumulates water for more than 2 hours, the system performs auto-rinsing for 20 seconds. If the user runs water during the rinsing, the system will switch to its normal mode.	The working light flashes during rinsing and stops when rinsing is complete.
4	Self-Cleaning Rinsing	If not used after 24 hours, the system performs auto-rinsing for 20 seconds. If the user runs water during the rinsing, the system will switch to its normal mode. (Note: Timer will reset after powering off.)	The working light flashes during rinsing and stops when rinsing is complete.
5	Rinsing after Filter Change	After replacing each filter: 1. CF filter: it will automatically begin to <b>rinse the filter</b> for 5 minutes after the light is reset. 2. RO membrane filter: manual rinse the <b>RO membrane</b> for 5 minutes. 3. CB/CA filter: open the faucet to <b>rinse the filter</b> for 15 minutes. 4. RO membrane filter is reset simultaneously with the other filters: manual rinse the <b>RO membrane</b> for 5 minutes, then open the faucet to <b>rinse the filter</b> for 15 minutes. 5. If the CF filter and the CB/CA filter are simultaneously reset: after the CF light is reset, it will automatically begin to <b>rinse the CF filter</b> for 5 minutes, then open the faucet to <b>rinse the filter</b> for 15 minutes.	During the rinsing process, the working light is flashing. Once the rinsing is complete, the working light remains continuously and turns off when the drinking faucet is turned off.
6	Running Water	Normal operation.	The working light only turns on when water is running and remains off at all other times.
7	Standby	The machine stops operation and enters standby mode.	The working light turns off.
8	Powering On	While powering on, filter life indicators are on at the same time. Each indicator flashes in the order of status (blue, purple, red), and each state is illuminated for 1 second, for a total of 3 seconds.	

## 6) Filter Service Life Reset

To perform a manual reset, press and hold the "Filter Service Life" button for 5 seconds. This action will be accompanied by a "Beep" sound as the filter is resetting. When the filter service life indicator light lit blue, and the buzzer sound gone, indicating the reset was successful.

The **CF filter** will automatically begin to rinse for 5 minutes after the **CF light** is reset.

## 7) Manual Rinsing Mode - RO Membrane

Press and hold the corresponding reset buttons CF+RO+CB/CA for 3 seconds. A short "Beep" sound will indicate that the system has entered the manual rinsing mode. The system starts rinsing the **RO membrane** for 5 minutes.

(The working light flashes during rinsing and stops when rinsing is complete.)

Press and hold the corresponding reset buttons CF+RO+CB/CA for 3 seconds again. Another short "Beep" sound will indicate that the system has exit the manual rinsing mode.

If the user runs water while rinsing, the system will automatically exit the manual rinsing mode.

## **iSpring Standard Limited Warranty (End-Users Only)**

**In order to be eligible for this warranty, the end-user must register at [www.123filter.com](http://www.123filter.com).**

For all water filtration systems, and upon registration by the end-user, iSpring Water Systems, LLC (iSpring) warrants for a one year from the date of purchase that the product is free of defects in materials and workmanship and that it will function for the duration of the warranty according to its specifications (the "Limited Warranty"). EXCEPT FOR THIS LIMITED WARRANTY, ISPRING EXPRESSLY DISCLAIMS ANY AND ALL REPRESENTATIONS AND WARRANTIES, WHETHER EXPRESS, IMPLIED, OR STATUTORY, INCLUDING ANY WARRANTIES OF TITLE, NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. iSpring has no liability for any defect or deterioration which results from the improper installation, service, repair or use of the product. End-user's sole and exclusive remedy for any breach of the Limited Warranty shall be repair or replacement, at iSpring's option and expense. This warranty is only provided to end-users and only applies to products purchased directly from an authorized iSpring dealer or reseller.

However, we do not have the order information from websites other than 123Filter.com (Amazon, Home Depot, etc.), so please be sure to fill in that information upon registration of your system. If you have any questions or concerns about your product, please do not hesitate to call or email us, or put it in the notes/comments upon your warranty registration. Your satisfaction is our business!

If you are happy with our products and service, please show your support by writing a product review on Amazon, even just a single line. It takes you just a minute but means a lot to us. Thank you!

## Warranty Registration Form

Name \_\_\_\_\_

Order# \_\_\_\_\_

Email \_\_\_\_\_

Phone \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_

Zip Code \_\_\_\_\_

Model #/ Serial Number

\_\_\_\_\_

Purchased at (e.g. Amazon, Home Depot)

\_\_\_\_\_

iSpring Water Systems, LLC  
2480 Industrial Park Blvd, Cumming, GA 30041  
678-261-7611

### Plumber's information (Optional)

To best serve our customers, we'd like to recommend good plumbers throughout the USA. If you are happy with your installer, please provide their information so that we can pass it on as a courtesy.

Thank you!

Name of the plumbing company used to install your system:

\_\_\_\_\_

Phone #: (\_\_\_\_\_) - \_\_\_\_\_ or email : \_\_\_\_\_  
of the technician.



Like our products?  
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Thank you!

**iSpringFilter.com**



For questions, comments, or technical support, please contact us at:

✉ [support@123filter.com](mailto:support@123filter.com)

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