

# CRO1000 Commercial Grade 1000 GPD Reverse Osmosis System

## INSTALLATION INSTRUCTIONS & OPERATING MANUAL Ver. 06/2020



**123** **Filter.com**  
iSpring Water Systems, LLC (since 2005)

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iSpring has been dedicated to providing high-quality drinking water to families across the United States since 2005.

From various residential water filtration systems that purify your water in everyday life, to drinking water faucets that deliver pure, healthy, and tasty water to you and your family, iSpring strives for high standard products and aims to make excellent drinking water accessible for all households.

At iSpring, we strive for high standard products 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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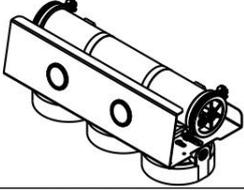
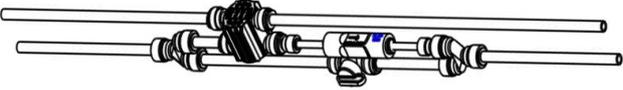
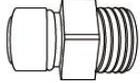
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## **Important User Information**

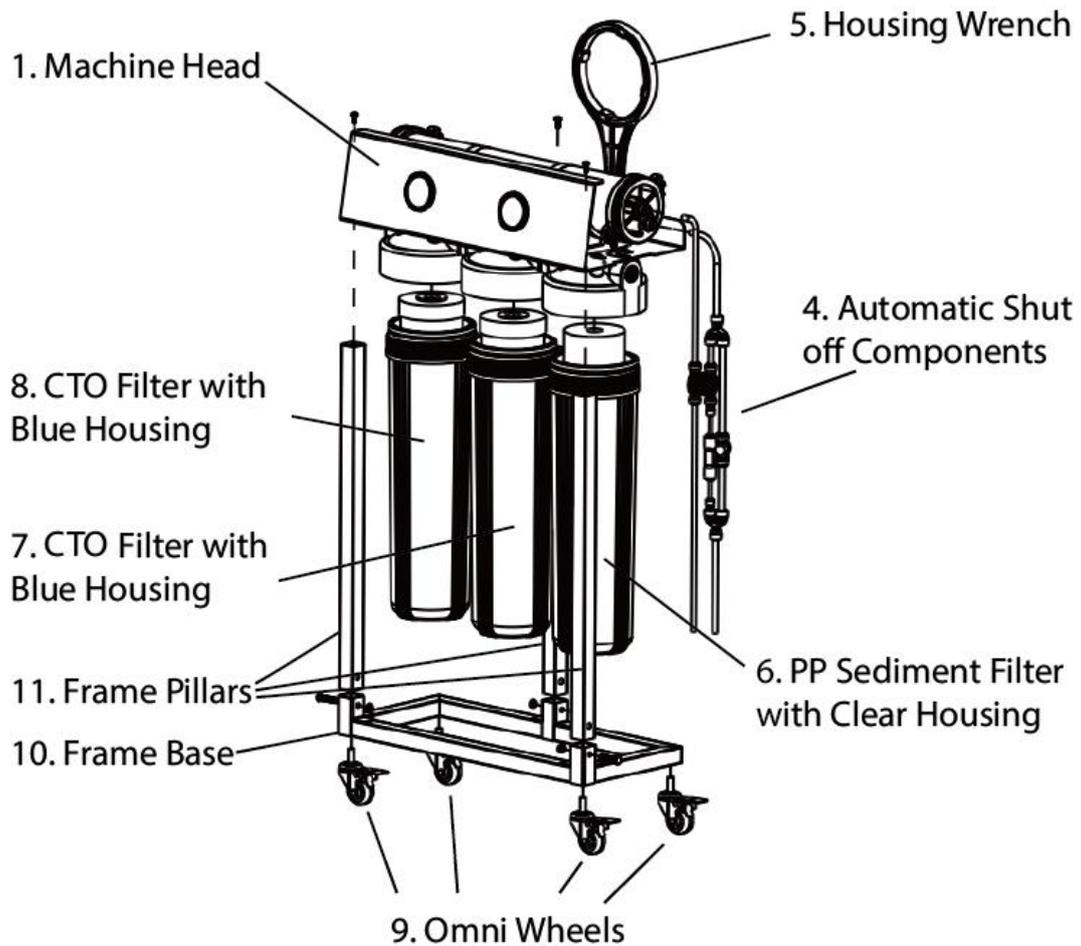
Users must adhere to the installation specifications described in this Product Installation and Operation Manual (hereinafter referred to as the “instruction manual”). iSpring Water Systems LLC (Hereinafter referred to as “iSpring”) is not responsible for damage, loss, or injury resulting from neglect,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

- This product is designed for residential and light commercial use ONLY. Contact iSpring customer service to inquire about use in any other environment or setting.
- The operating temperature range is 41°F - 100°F. When the water temperature or ambient temperature falls below 41°F, shut off the inline water supply, turn off the inline water adapter, and drain the remaining water from the system. Failure of the water supply line or water purifier may result in malfunction, damage, and possible injury to the enclosure or water supply line.
- If leaking occurs, immediately shut off the inline water supply by turning off the adapter. Then unplug the system and contact iSpring customer service at 678-261-7611 from 9:00 a.m. to 5:00 p.m., Monday – Friday, or open an online ticket 24/7 at [support.123filter.com](https://support.123filter.com).
- Only use authorized iSpring parts and filters. Using unauthorized or aftermarket components will void the product warranty.
- iSpring recommends that users check external fittings and connections regularly to ensure all components are secure and there are no leaks.
- Unauthorized modification or disassembly is strictly prohibited and will void the warranty.

## Packing List and Components

| N.O. | Name   | Quantity | Image   |
|------|--|----------|---|
| 1    | Machine Head   | 1        |    |
| 2    | Machine Head Assembly (with O-ring x4, 3/8" PE tubing – 32mm pre-assembled.) | 1        | Shown in Figure. 1-3  |
| 3    | 1000 GPD Reverse Osmosis Membrane  | 1        |     |
| 4    | Automatic Shutoff Components   | 1        |     |
| 5    | Housing Wrench   | 1        | Shown in Figure. 1-3  |
| 6    | PP Sediment Filter with Clear Housing  | 1        | Shown in Figure. 1-3  |
| 7    | Carbon Block Filter with Blue Housing  | 1        | Shown in Figure. 1-3  |
| 8    | Carbon Block Filter with Blue Housing  | 1        | Shown in Figure. 1-3  |
| 9    | Omni Wheels  | 4        | Shown in Figure. 1-3  |
| 10   | Frame - Base Assembly  | 1        | Shown in Figure. 1-3  |
| 11   | Frame - Pillar Assembly  | 3        | Shown in Figure. 1-3  |
| 12   | User Manual  | 1        |   |
| 13   | Water inline fitting: 3/4" MNPT to 3/4" push to connect fitting              | 1        |  |
| 14   | Lubrication Pack   | 1        |  |
| 15   | Plumber's tape   | 1        |  |

|    |                              |    |   |
|----|------------------------------|----|---|
| 16 | M8 x45 Screw sets            | 3  |   |
| 17 | M6 x14 Screw sets            | 3  |  |
| 18 | Zip tie                      |    |   |
| 19 | 1/4" Quick-Fitting Lock Clip | 9  |  |
| 20 | 3/8" Quick-Fitting Lock Clip | 15 |  |
| 21 | Spare parts pack             | 1  |   |



**Figure 1. Product Components**

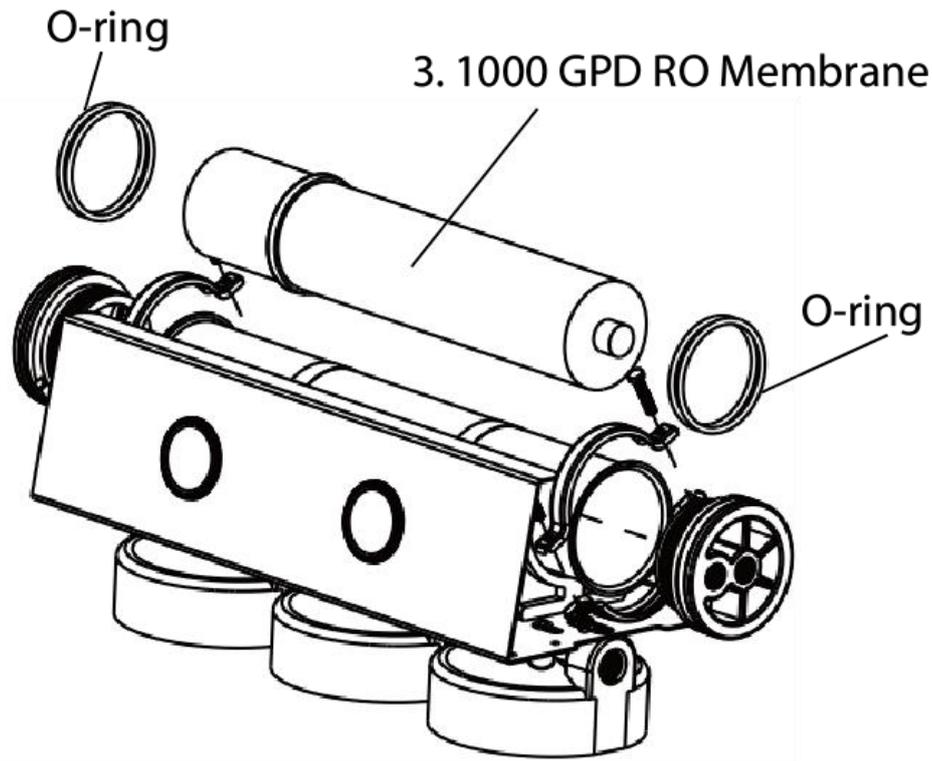


Figure 2. Machine Head

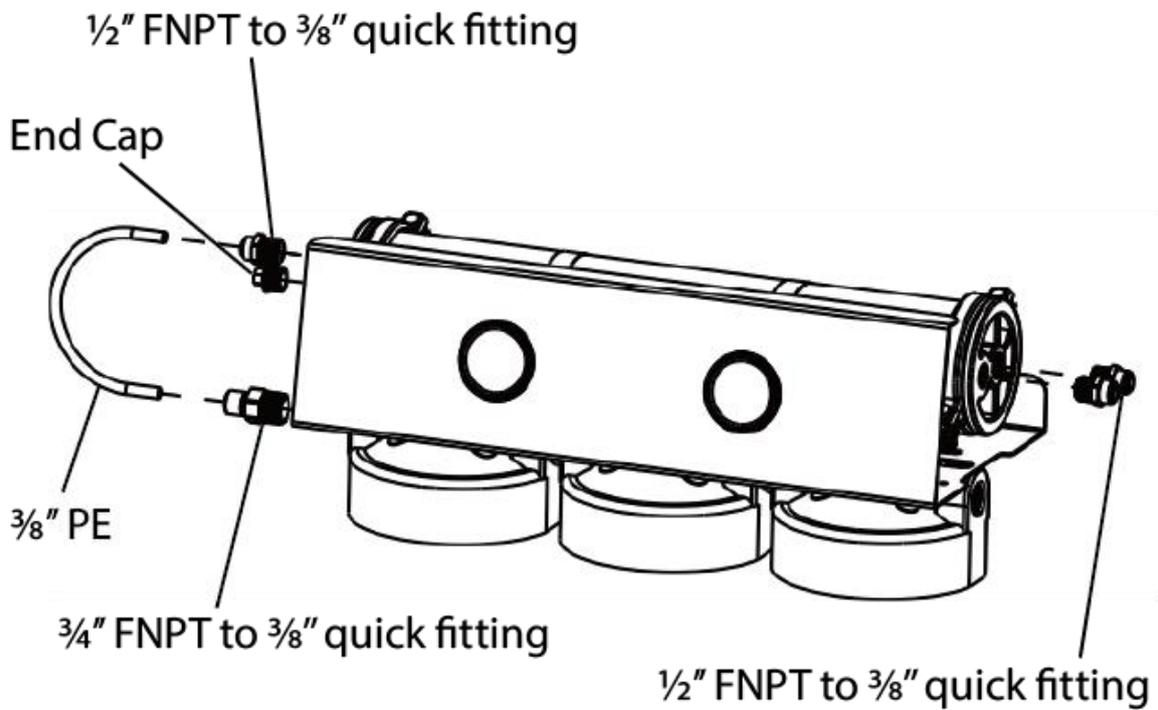


Figure 3. Machine Head

## Product Features

### 1). Scope and Intended Use

This system is designed for use with municipal water in residential and light commercial applications.

### 2). Water Treatment Process

Municipal Tap Water → PP Sediment Filter → Carbon Block Filter → Carbon Block Filter → Reverse Osmosis Membrane → Pure Water

### Specifications

|                              |                         |
|------------------------------|-------------------------|
| Model No.                    | CRO1000                 |
| Inlet Water Pressure Range*  | 80 -130 psi             |
| Optimal Inlet Water Pressure | 100 psi                 |
| Inlet Water Temperature      | 41–100°F                |
| Maximum Pure Water Flow**    | Up to 1000 GPD (0.7GPM) |

\*Booster pump recommended if inlet water pressure is less than 80 psi for optimal performance.

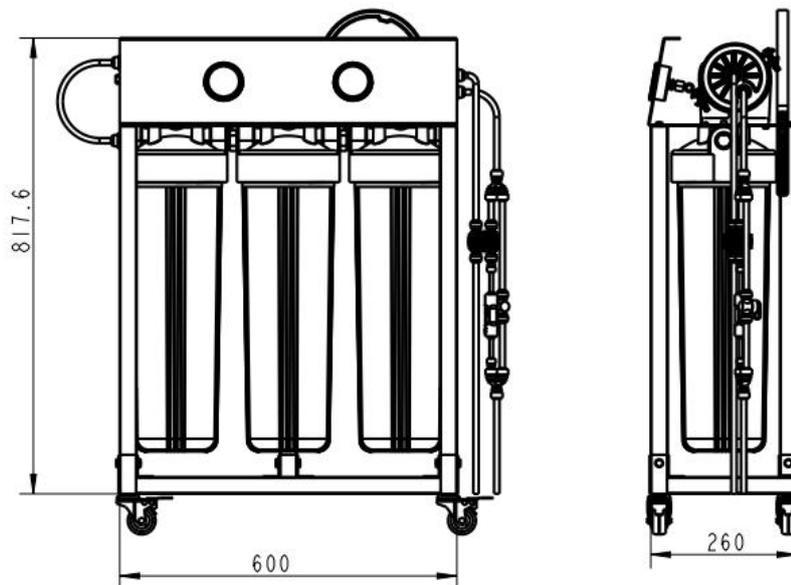
\*\* Tested with water of 150ppm TDS, at 100 Psi and 73°F. The actual flow rate differs based on specific conditions.

### Filter Changing Schedule\*\*\*

| Filter             | Changing Frequency |
|--------------------|--------------------|
| PP Sediment Filter | 3-6 months         |
| CTO Filter         | 6-12 months        |
| RO Membrane        | 2-3 years          |

\*\*\*Actual filter life may vary based on specific water conditions.

### 3). Product Dimensions

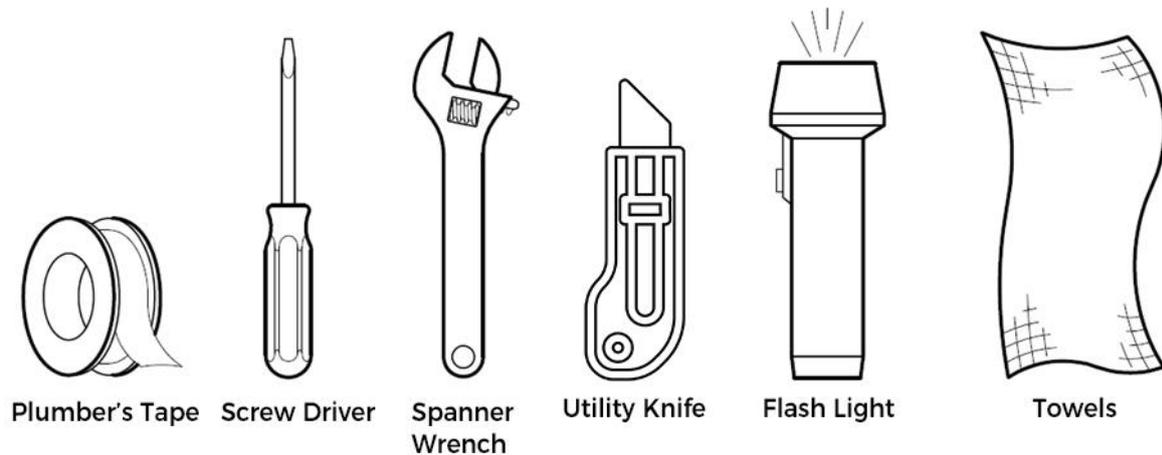


**Figure 4. Overall Dimensions (measurements are in mm)**

## Product Assembling and Installations

### 1). Before Installation

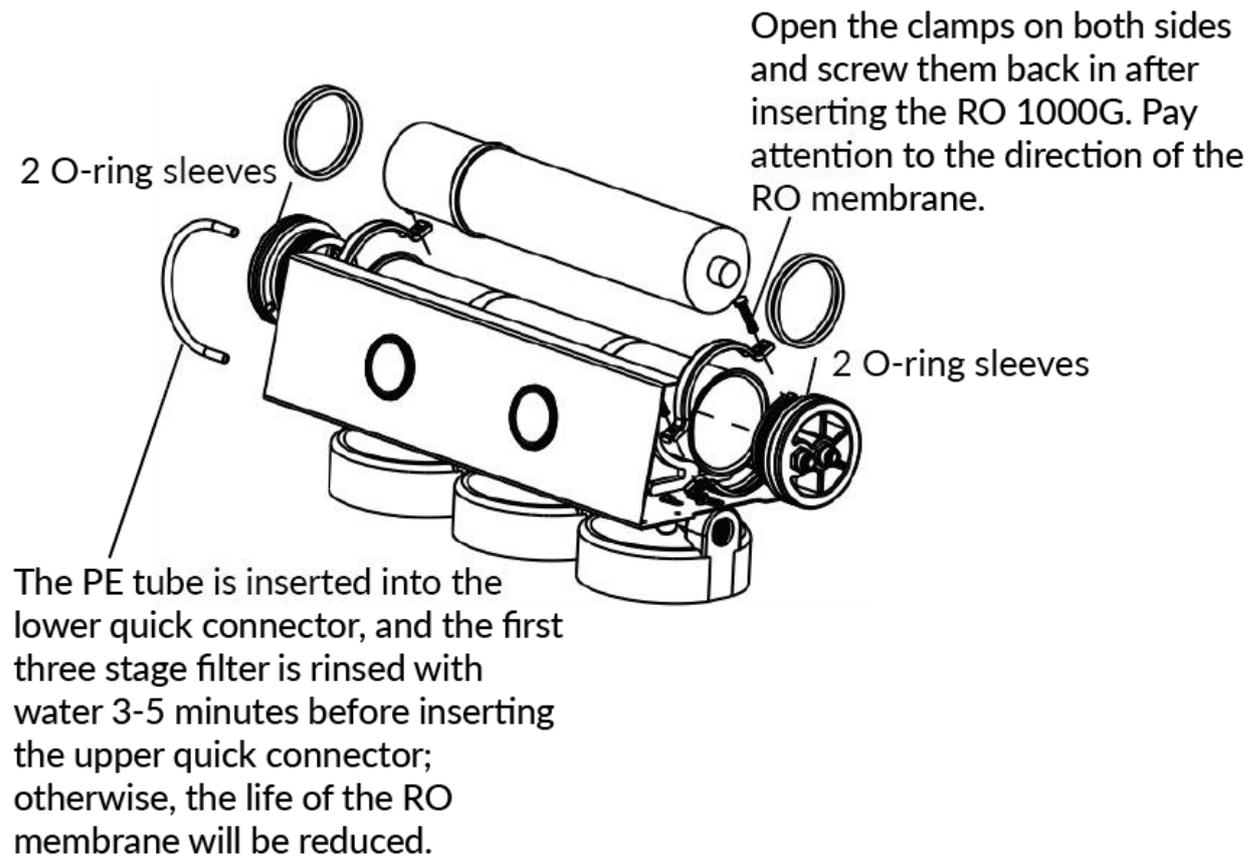
- Ensure there is enough space at the desired location for the system and to change filters safely. Contaminated water will run out of the drain line, so be sure to consider this.
- Verify no parts are missing from the package. Contact iSpring if any part is missing or defective.
- Tools required for assembly:



**Figure 5. Recommended Tools**

### 2). Assembling the Machine Head

- Remove the screws on the clamps located on both ends of the stainless-steel membrane housing. Also, remove the caps on both ends.
- Verify the O-rings on both caps (4 in total) are correctly in place.
- Take the RO 1000G out of its package and place it in the stainless-steel membrane housing. Pay careful attention to the direction of the arrow on the RO membrane; it must be the same as the direction of the stainless-steel membrane housing.
- Replace the caps on the stainless-steel membrane housing and screw the clamps in place. Pay attention to the ends of the caps.
- Insert the PE tube into the quick connector on the lower left side. You do not need to insert the upper quick connector on the left side at this point. After the first three-stage filter is flushed with water, install the quick connector on the upper side. Then rinse for 3-5 minutes before connecting the PE tube to the water inlet of the RO membrane. This serves to prevent damage to the RO membrane from the activated carbon particles washed out from the first rinse.



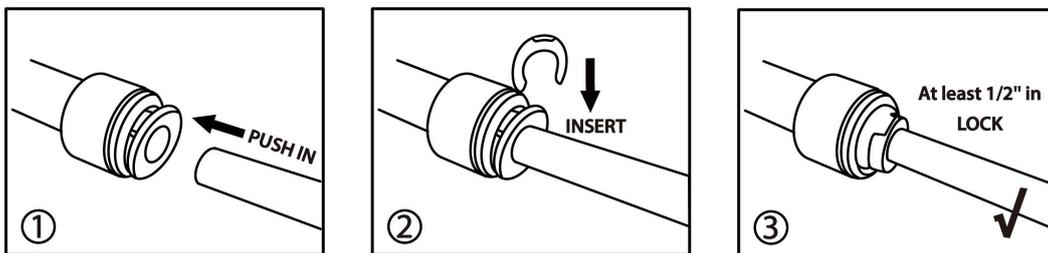
**Figure 6. Machine Head Assembling**

### 3). Assembling the System Body

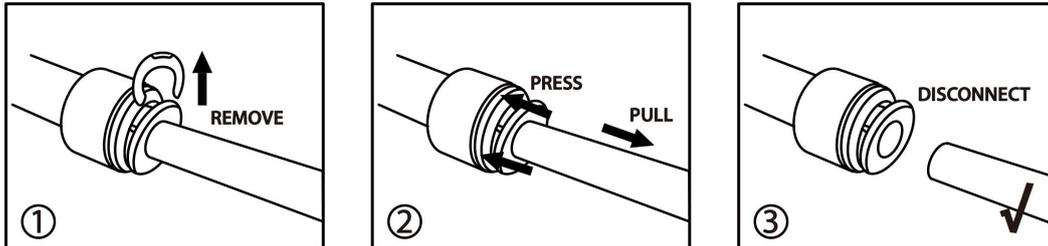
- The 4 Omni wheels are locked onto the frame base, and the foot brake can be pressed down into the locked position for subsequent installation.
- Insert three frame pillars into the three square slots of the frame base. Pay careful attention to the opening direction of the frame pillars, as it is the same as the opening direction of the frame base. Then screw on the M8 bolts and use a wrench to lock the bolts and fix the frame pillars.
- Place the machine head on the three fixed frame pillars, then determine the orientation and lock the three M6 screws. Next, fix the machine head and confirm that the entire steel frame is stable as assembled.
- Take out 3 filters and remove their PE protective film. Install the 3 filters: the PP sediment filter, and 2 CTO filter in order from right to left, and use the housing wrench to tighten the housing.
- Install the water outlet into the outlet of the RO membrane housing. Pay attention to the interface between pure water and waste water. The water outlet tube is white and blue: the blue tube runs pure water, and the white tube runs waste water:

- The pure water inlet is connected to the quick connector in the middle of the membrane housing cap, and the outlet is connected to water-using equipment such as a pure water faucet.
- The wastewater inlet is connected to the quick connector on the outside of the membrane housing cap, and the outlet discharges sewage through the sewage pipe.
- Connect the system's water inlet to the water supply pipe. The system comes with a 3/4" NPT female connection. A 3/4" NPT to 3/4" quick-connect brass fitting connector is also included. Different types of connections can be used based on the user's actual setup.

### HOW TO CONNECT

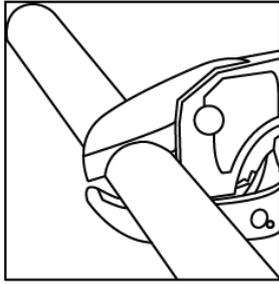


### HOW TO DISCONNECT

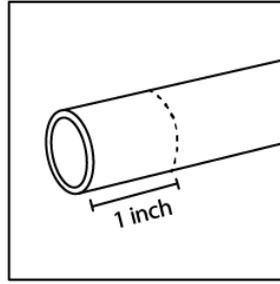


**Figure 7. How to Install and Disconnect 1/4" and 3/8" Quick Fitting**

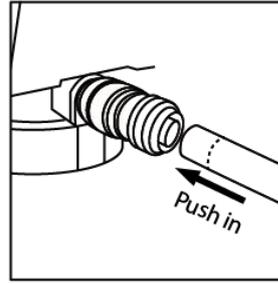
## HOW TO CONNECT



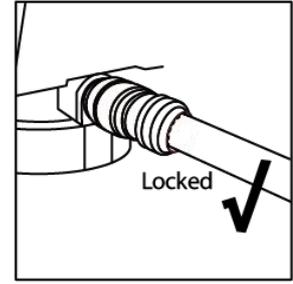
**Step 1:**  
Make a clean and square cut with a pipe cutter.



**Step 2:**  
Mark the pipe with 1 inch insertion depth.

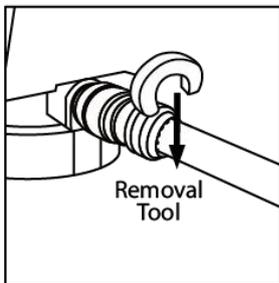


**Step 3:**  
Insert the pipe into the fitting.

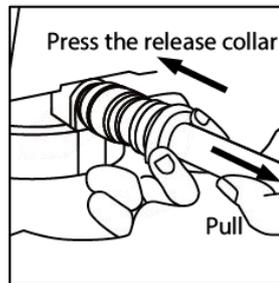


**Step 4:**  
Check the insertion depth mark.

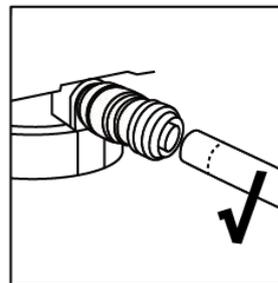
## HOW TO DISCONNECT



**Step 1:**  
Snap the removal tool over the pipe and align next to the fitting.

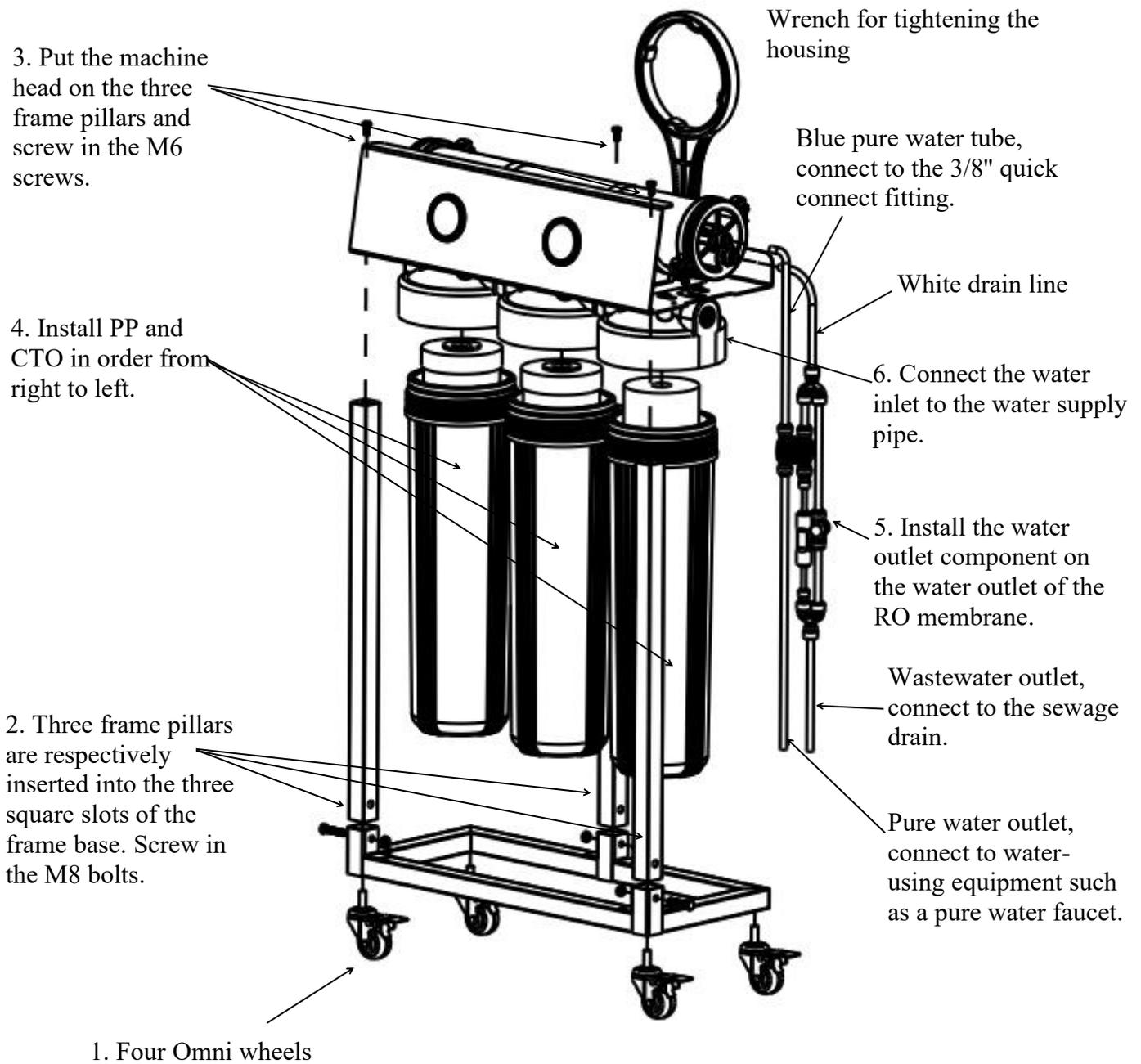


**Step 2:**  
Firmly push the removal tool over the collar of the fitting.



**Step 3:**  
Pull the pipe out of the fitting.

**Figure 8. How to Use the Push to Connect Fittings**

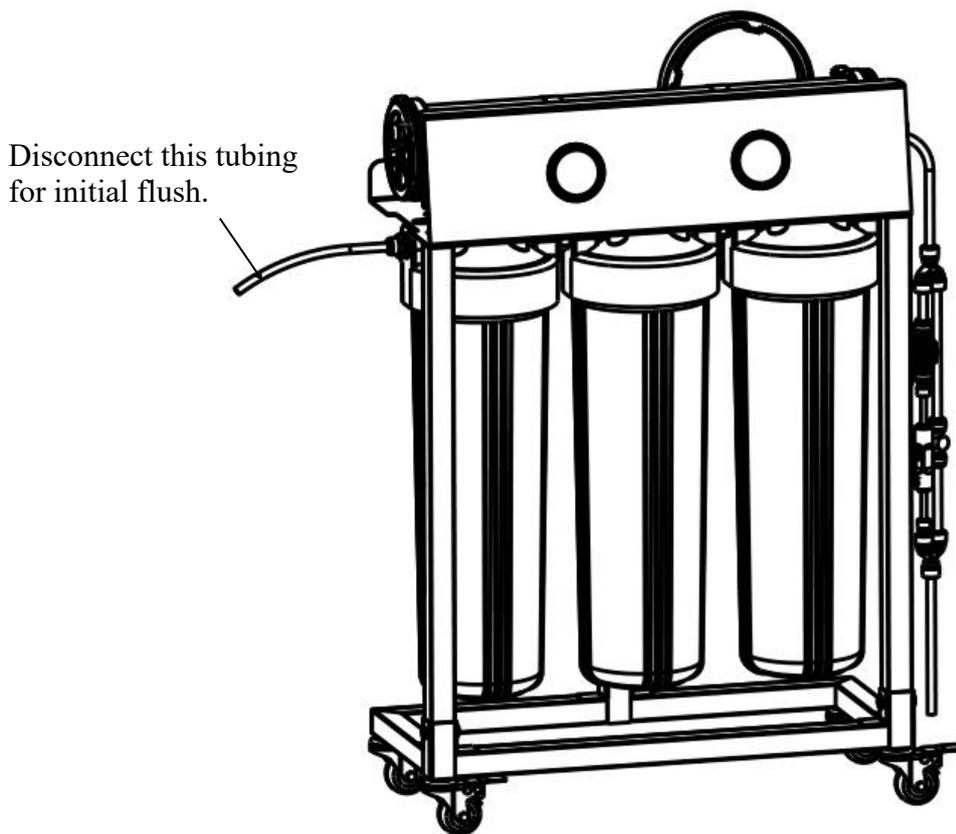


**Figure 9. Installation**

## Using the System

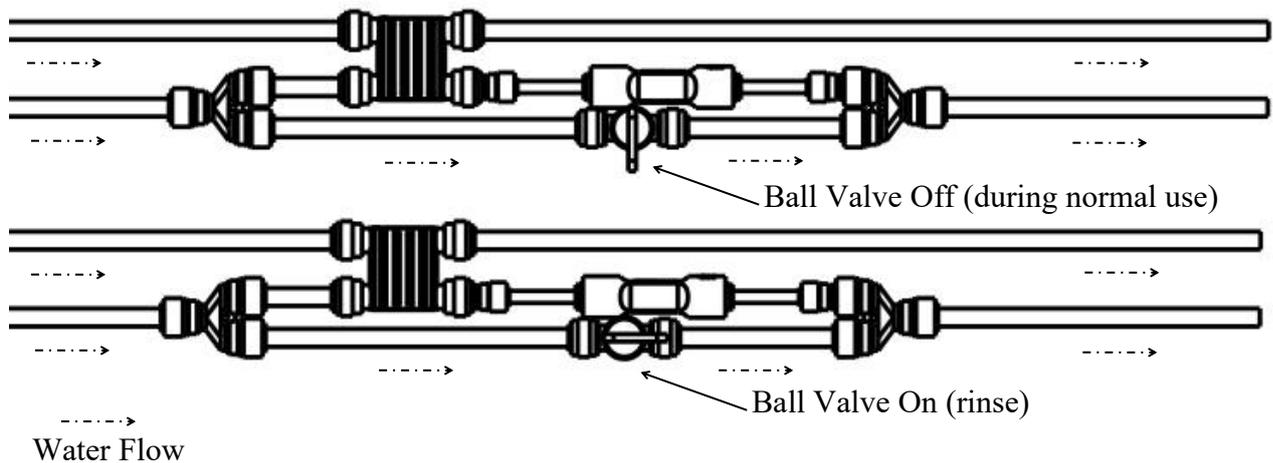
### 1). Initial Setup

- It is essential to flush the system to avoid damage to the reverse osmosis membrane. Flushes should be performed each time the filters are changed as well. Disconnect the PE tubing between the 3<sup>rd</sup> stage and the membrane housing. Place the end of the tubing in a drain or container, then turn on the water supply and flush the first 3 stage pre-filter for at least 5 minutes. Turn off the water after the flush is complete and connect the tubing to the reverse osmosis membrane housing.



**Figure 10. Flushing the System**

- After all the tubing is connected, turn on the water supply and make sure the system is not leaking. Verify the ball valve on the automatic shutoff components is in the “on” position (shown in **Figure 10.**). Then keep the water running and rinse the membrane for at least 30 minutes. This process serves to kick start the membrane by rinsing off the protective solutions on the membrane’s surface. It is recommended that users manually rinse the membrane for 5 minutes at least every 3-6 months to ensure the maximum performance of the membrane.

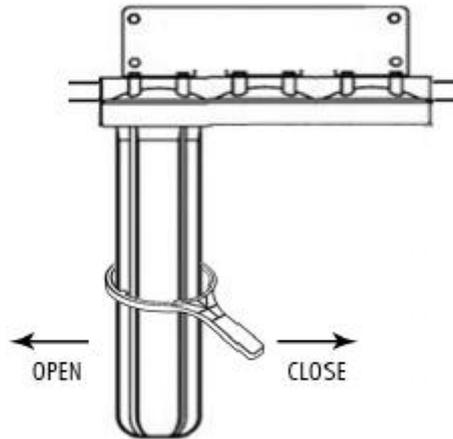


**Figure 11. Valve Position**

- The system is now ready to use. Make sure the drain line is in position for proper wastewater dispense.

## 2). Daily Maintenance and Filter Replacement Schedule

- The first stage should be replaced every 3 – 6 months depending on source water quality. This stage comes with a transparent housing that enables simple, periodic visual checks of the filter. Replace the filter as soon as you see any buildup on the surface of the filter, or if you see a significant change in the filter's color.
- The 2<sup>nd</sup> and 3<sup>rd</sup> Stage should be replaced every 6-12 months, depending on source water quality. Replace the filters immediately anytime you observe a significant pressure drop.
- The reverse osmosis membrane should be replaced every 2 – 3 years if it is regularly rinsed (5 minutes every 3-6 months).
- To replace the first 3 stages filter, turn off the inline water supply, drain the remaining water in the system, use the included housing wrench, turn clock wise to unscrew the housing. Dispose the old filters and instert the new ones. Place the housing back to attach to the housing cap, make sure the orings are in place, apply lubrication if required. Hand tight the housing then use the housing wrench, turn counter-clock wise for another 1 to 1 ½ rounds.



**Figure 12. How to Use the Housing Wrench**

- To replace the RO membrane, turn off the inline water supply, drain the remaining water in the system. The membrane housing comes with 1 cap on each end, and membrane can be replaced from either end thus only one cap is needed to be removed. Remove the tubing on the quick fittings of the side to be taken off, loosen the M8 screw that locks the cap then pull the membrane cap out. Pull out the old membrane with a pair of pliers, insert new membrane. Replace the cap, make sure the orings are in place and fasten the M8 screw. Insert the tubing back to the quick connecting fittings.
- Please be advised that the system needs to be running for at least 30 minutes after any filter is changed before the water can be consumed.

### **3). Recommendations and Tips**

- All 4 Omni wheels come with a brake and leveling system. Simply press the brake down to apply the brake and lift the brake to release and move the system with ease. The height of the Omni wheels can be adjusted by a wrench to keep the system level.
- Pressure gauges are connected to the outlet of the 1<sup>st</sup> and 3<sup>rd</sup> stages. If the difference between the 2 gauges is greater than 5 psi, there are contaminants blocking the filters. The first 3 filters should be replaced as soon as possible to ensure maximum performance.
- If the inline water pressure is less than 70 psi, or the ambient temperature is below 60°F, use the optional booster pump (Model number PMP1000) to ensure optimal performance.

## **Warranty Registration**

**To register your product for the warranty, visit our website at [123filter.com](http://123filter.com) and go to the “Warranty” tab.**

We provide a 30-day money-back guarantee, a 1-year manufacturer warranty, and lifetime tech support for all of our products. 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!**





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