## How to Replace Filters on a Reverse Osmosis (RO) System

These instructions are intended for general filter replacement in most standard reverse osmosis (RO) systems and may not be applicable to all RO systems. If your RO system resembles any of the four illustrations below, these instructions should generally be applicable. Whenever possible, refer to the owner's manual for specific system instructions.


## Sanitize Your System

It is recommended to sanitize your RO system when replacing all the filters. Refer to the instruction guidance for more details.


## Preparations

- Ensure you have the correct filter cartridges for your specific RO system.
- Keep filter cartridges in original packaging until they are ready to be installed.
- Thoroughly wash heads or wear latex gloves when handling new filters.


## Types of Filters on your RO System

Standard RO systems typically have three types of filters. Follow the specific instructions for each filter type.


Polishing Inline Filter

- Installed horizontally on top of RO membrane housing
- Encapsulated filter with fitting on each end
- Filter size is $2^{\prime \prime} \times 10^{\prime \prime}$
- Typically replace every 6-12 months


## Standard Water Filter Replacement Instructions

Most standard RO systems have two or three vertical filters located below the metal bracket. These filters typically include a combination of sediment and carbon block filters.

1

## Turn Off the Water Supply

Locate the shut-off valve that controls the water flow to your RO system. Turn the valve off to stop the water supply.

If there's a line connecting your RO to your refrigerator or ice maker, locate the shut-off valve on that line. Turn off the valve on the line leading to the refrigerator or ice maker.

Prepare for Excess Water
Excess water in the filter housings may spill while replacing filters. Place a shallow tray or pan under the filter housing to catch any water that may spill and have a towel or cloth available.

## Turn Off Storage Tank

Locate the blue shut-off valve situated on top of the storage tank. Close the valve by turning the blue handle a quarter turn clockwise.

4
Relieve Pressure
Release any remaining water pressure in your system, by turning on the RO faucet at the kitchen sink and allowing it to run until water stops flowing.

Remove the Vertical Filter Housings Identify the two or three (depending on your system) vertical filter housings on your system. Unscrew the vertical filter housings from the system and remove the used filter cartridges. If you encounter difficulty unscrewing the filter housing, you may need a special filter housing wrench.


Remove O-rings
Carefully remove the O-rings located near the top of each filter housing and place them on a clean surface.

Clean and Reseat O-Rings
Wipe the O-rings clean with a soft, clean towel. Inspect them visually for any signs of damage such as nicks, cuts, or abrasions. If any O-ring appears damaged, replace it to prevent potential leaks. If the O-rings are in good condition, lightly lubricate them with silicone lubricant. Insert the O-ring into the filter-housing O -ring groove and ensure it is seated correctly.

11
Install New Filters
Insert each new filter in the correct filter housing. Confirm that the filter is properly seated. Reattach the filter housing to the correct position on the system. Tighten by hand only, avoiding excessive tightening.

## 8 Disinfect Filter Housings

Thoroughly cleanse the empty filter housings using soap and warm water. Ensure any remaining soap residue is thoroughly rinsed out before inserting the new filter and reattaching.

Verify Correct Filters
Before unwrapping the new filters, make sure that they closely resemble the old filters being replaced.

## Reverse Osmosis Membrane Replacement Instructions

Standard RO systems have one membrane located horizontally above the bracket holding the vertical filters.

1
Disconnect Tube from Membrane Housing Identify the RO membrane filter housing. Disconnect the single tube connected to the membrane housing cap (typically on the right side).


Remove RO Membrane
Unscrew the cap from the membrane housing and remove the used RO membrane. Take note of the direction in which the membrane was installed. If it proves challenging to remove, use needle-nose pliers for assistance.

Reconnect Housing Cap
Securely connect and hand tighten the cap onto the membrane housing.

Reconnect Tubing
Insert the tubing into the hole on the housing cap. Push the tubing into the quick connect fitting as far as possible, then pull lightly on the tube to secure grip.


## Inline Polishing Filter Replacement Instructions

Typically, standard reverse osmosis systems feature a single inline polishing carbon filter positioned horizontally above or adjacent to the RO membrane housing. These inline filters come with either threaded or quick-connect fittings connections, sized for either $1 / 4^{\prime \prime}$ or $3 / 8^{\prime \prime}$ tubing

1
Disconnect Tubing
Remove the tubing from each end of the filter, or from fitting connected to each end of the filter.


External Fittings (if applicable)
If the filter has external fittings attached to each end of the filter, unscrew the fittings from the filter. Remove any remaining plumber's tape. Wrap male threaded fittings with 2-3 layers of new plumber's tape and reinstall into the new filter.

Connect Tubing to New Filter
Insert tubing into the hole on the new filter. Push the tubing into the quick connect fitting as far as possible, then pull lightly on the tube to secure grip.

## Turning On and Testing the RO System

1
Turn on Water Supply
Insert tubing into the hole on the new filter. Push the tubing into the quick connect fitting as far as possible, then pull lightly on the tube to secure grip.

Check for Leaks
While the system is flushing, inspect all connections and filter housings for leaks. Leaks from tubing connections typically indicate tubing was not pushed in far enough. Leaks from housings typically indicate either a damaged O-ring or the housing was not screwed on tight enough.

## 2

## Flush the System

Turn on the RO faucet at the sink to initiate the system flush. Ensure that the valve on the storage tank remains closed. This will remove air and carbon fines from the system. Eventually, you should get a small steady stream of water or a very fast drip from the RO faucet. Allow approximately $1-2$ gallons flush through the RO system. Place a large bowl or pitcher in the sink to collect the water and help estimate how much water the system has flushed. Discard any collected water.

## Turn On Storage Tank

Open the ball valve on top of the storage tank by turning the blue handle a quarter turn counterclockwise. The blue handle should be parallel with the tubing connected to the tank.


## Additional Help

If you purchased your replacement filters from ESP Water Products and require additional help with installation, feel free to reach out to us. You can contact us with your order number at (469) 521-9920 (Monday-Friday 8 am to 5 pm CST) or at support@espwater.com

