

HRO RO Filter Series

Filter + Membrane Change Instructions



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NOTES AND WARNINGS

Do not use with water that is microbiologically unsafe or with water of unknown quality without adequate disinfection before or after the system. Systems certified for cyst reduction may be used on disinfected water that may contain filterable cysts.

Waste water from all RO units is considered non-potable. It may be used for many purposes in the interest of saving water but must not be consumed.

Read through the entire instruction manual before beginning filter change or use of the unit. Sentry Water Filters & The Water Filter Factory are not responsible for any damages, injury, or monetary loss incurred from failure to read and follow the included instructions.

We recommend that the installation of any mains water systems that will be under constant feed water pressure is done by a local certified plumber and that any systems exposed to constant hydrostatic feed pressure are fitted with a watermark certified pressure limiting or regulating valve. Although not a legal requirement.

Take care to follow all instructions regarding system flushing. Flushing is an essential stage of using any system. Flushing is essential to the removal of any manufacturing by-products that may contaminate other filters and for the removal of preservation products applied to RO membranes.

Use only cartridges and parts that are suitable/recommended for your unit as indicated by the manufacturer. Using non-genuine cartridges or parts may void your system warranty.

Observe the maximum maintenance interval of 6 months on all units. Failure to comply with maintenance procedures as outlined in this manual unless otherwise stated by the manufacturer may void warranty.

Note that your system should be labelled to indicate all connection points. You should familiarise yourself with these connection points to aid in installation.

SYSTEM REQUIREMENTS

Maximum feed TDS (Total Dissolved Solids)	500ppm
Minimum Feed Pressure	40psi
Maximum recommended feed pressure	90psi
Operating temperature range	5C-40C
pH Range	3.5-10.5

- Do not expose system to constant sunlight to prevent UV damage on housings.
- Take care whilst using the system to prevent damage.
- Do not block any of the system outlets. Waste flow is essential to membrane health.
- Use system only with water.
- Do not dry the RO membrane.
- Ensure adequate carbon pre-filtration for chlorine reduction before the membrane.

STANDARD SYSTEM LAYOUT

The **HRO3** units all have the same design and connection points. **Figure 1** shows the standard design for these systems. The **HRO4** units will have the same layout as the HRO3 units, except that they will have either two pre-filters or two post-filters depending on the filters that were chosen.

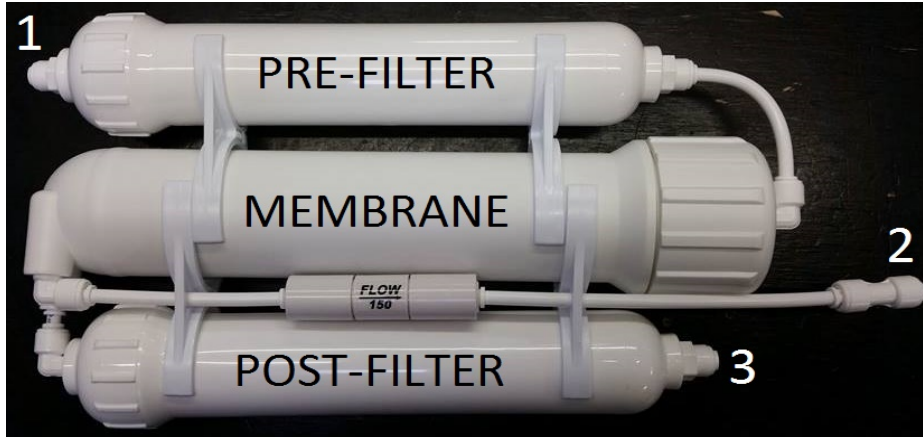


Figure 1

Connection points as per **Figure 1**:

1. Feed water Inlet – this is the point you connect to your tap.
2. Waste water outlet – This is the water that you discard.
3. Pure water outlet – This is the water that you collect for use.

USING QUICK-FIT FITTINGS

CONNECTING

1. Push the tubing into the quick-fit fitting as per **Figure 2**. You will feel the tube hit the sealing O-ring about 1cm into the fitting. Push the tube a little harder and you will feel the tube push through the O-ring about another 5mm and hit the stopper inside the fitting. Your connection is now made.

DISCONNECTING

1. Locate the locking collar on the quick-fit fitting. The locking collar is the small round collar that the tubing goes into on the end of the fitting as per **Figure 3**.
2. Push the locking collar flush against the fitting as per **Figure 4** and whilst firmly holding the locking collar back against the fitting, gently pull the tube out from the fitting. The tube should slide easily from the fitting. If you find yourself using quite a bit of force, try pushing the tubing back into the fitting, holding the collar back against the fitting even firmer and pulling the tube out again. You can use a pair of pliers or a fork to hold the collar back if you find it difficult to do with your fingers.



Figure 2



Figure 3



Figure 4

FILTER & MEMBRANE REPLACEMENT & FLUSHING

Replacement filters and membranes are not supplied pre-flushed, they have to be flushed properly before you are able to use the unit. The membrane is supplied in a preserved/dried state and needs flushing time to remove any preservative and rehydrate properly. All water from “PRODUCE” and “WASTE” outlets should be discarded during the flushing process.

Note: It is very important to follow the instructions on flushing the system one stage at a time, as carbon fines from the pre-filter can damage the membrane and preservative from the membrane can exhaust the post filter if not flushed properly.

REPLACING THE PRE-FILTER

The pre-filter is the granular (GAC) carbon filter (first filter the water will flow thorough per **Figure 1**).

1. Remove the old filter by disconnecting the tubing from the quick fit fittings at both ends of the filter and pulling the filter from the clip brackets.
2. Unscrew the quick-fit fittings from the old filter and screw them into the new filter. If the fittings feel lose you may need to add some thread tape to get a good seal, do not over tighten.
3. Fit the new filter by pushing it back onto the system in the same orientation as the old filter and reconnecting the tubing at either end of the filter.

FLUSHING THE PRE-FILTER

1. Disconnect the tubing at the right angle quick-fit fitting where the short piece of tubing goes into the larger membrane housing (**Figure 5**).
2. Hold the short piece of tube you just disconnected and point it into your sink/garden. Turn the water on to the unit for about 20 seconds to flush the carbon fines away. It is important to hold the tube as the pressure can be quiet high. The water will be black at first, but will come clear after a few seconds.
3. Reconnect the pre-filter to the membrane housing by pushing the tubing back into the fitting.



Figure 5.

REPLACING THE RO MEMBRANE

1. Disconnect the tube that runs to the right angle quick-fit fitting at the inlet of the membrane housing (**Figure 5**) and unscrew the cap of the membrane housing, the cap should be turned counter-clockwise.
2. Remove the membrane element by gripping the plastic core with a pair of pliers and pulling. If the membrane is stuck tight, try twisting/rotating the membrane whilst pulling.
3. Remove the new RO membrane from its bag (**DO NOT REMOVE THE BLACK RUBBER SKIRT/RING**) and insert it into the housing in the same orientation that the old membrane came out, so that the end with small O-rings goes in first and the end with the rubber skirt goes in last (**Figure 6**).
4. Push the membrane so that the core seats within the end of the housing, you will know that the membrane is fully seated when the plastic core is level with the rim of the membrane housing.
5. Re-fit the cap making sure that the O-ring is in place and tighten the housing **firmly** by hand.
6. Re-connect the tube to the inlet of the membrane housing.

FLUSHING THE RO MEMBRANE

1. Disconnect the Post-filter at the quick fit fitting where it connects to the outlet of the RO membrane housing (**Figure 7**). This is to prevent contaminating the post filter during flushing.
2. Place the system in a sink or over a drain and turn the water on to the unit for about 15 minutes to flush the membrane. Water will slowly trickle from the waste water outlet and also from the fitting that you just disconnected the post-filter from.
3. Turn the water off after 15 minutes, wait for the water to stop trickling from the system and reconnect the post filter to the membrane housing at the right angle fitting (**Figure 7**).



Figure 6



Figure 7

REPLACING THE POST-FILTER

The post-filter is the final stage inline filter located after the membrane as per **Figure 1**.

1. Remove the old filter by disconnecting the tubing from the quick fit fitting at the outlet of the filter, disconnecting the filter from the membrane housing at the right-angle fitting (**Figure 7**), and pulling the filter from the clip brackets.
2. Unscrew the quick-fit fittings from the old filter and screw them into the new filter. If the fittings feel loose you may need to add some thread tape to get a good seal, do not over tighten.
3. Fit the new filter by pushing it back onto the system in the same orientation as the old filter - reconnecting to the membrane housing and reconnection the tubing at the outlet of the filter.

FLUSHING THE POST-FILTER

The flushing procedure for the post filter will depend on the type fitted to the unit.

CARBON BASED POST-FILTERS

1. Turn on the water to the unit, water should begin to trickle from the 'waste' water outlet first and eventually from the 'product' water outlet once the post-filter has filled up.
2. Allow the system to run for 15 minutes to flush the post filter, the water will be discoloured with carbon fines at first but should come clear after a couple of minutes.
3. Check the product water after 15 minutes, if the water is still discoloured continue flushing until clear.

DI RESIN BASED POST-FILTERS

1. Turn on the water to the unit, water should begin to trickle from the 'waste' water outlet first and eventually from the 'product' water outlet once the post-filter has filled up.
2. Allow the system to run until approximately 2 litres of water have flowed out of the 'product' water outlet.

Once the flushing is complete you are free to use your system by simply turning the feed water on and collecting the pure water that trickles from the '**PRODUCE**' outlet.

With normal use on average town water (100ppm) the pre-filter should be changed at 6 months and the membrane every 2 years. On **HRO3-G** units the post-membrane filter should be changed every 12 months, for **HRO3-D** units the DI post-membrane filter should be changed as necessary.