January 2025

WRO330 Installation Guide

wash water
where water has no limits

READ THIS PAGE BEFORE STARTING INSTALLATION

- You must read and understand the contents of this manual before installing or operating your WRO330 system.
  Personal injury or property damage could result if you fail to follow instructions in this manual.
- This system and its installation must comply with all appropriate water byelaws.
- This RO system must be operated between water pressures of 4bar and 8bar. If the water pressure is higher, use a pressure reducing valve in the water supply line to the RO system.
- This unit must be operated at temperatures between 5-38°C (41-110°F)
- Do not use this RO system on hot water supplies.
- Do no install this unit where it may be exposed to wet weather, direct sunlight, or temperatures outside the range specified above.
- Do not use water that is microbiologically unsafe and without adequate disinfection before or after this system.
- This publication is based on information available at the time of printing. Continuing design refinement could cause changes that may not be included in this publication.
- This system can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning the use of this system in a safe way and understand the hazards involved.
- Children should not play with the appliance.
- Cleaning and user maintenance shall not be completed by children.

WRO330 SYSTEM SPECIFICATIONS

Specifications and Performance Data Sheet		
Water Supply		Potable Water
Feed Line Pressure		4bar to 8bar
Permeate Flow		0.19L/min @ 4bar
Salt Rejection		≥94%
Recovery		≥36%
Water Temperature		5-38°C
Membrane	Type	Thin Film Composite Membrane
	Rating	75 us-gpd
Connection	Inlet	1/4” Speedfit
	Tank	3/8” Speedfit
	Faucet	3/8” Speedfit
	Drain	1/4” Speedfit

- Salt rejection and product flow are variable and can be affected by temperature and feed water conditions.

Model	Stage 1	Stage 2	Stage 3	Stage 4	Faucet
WRO330	Sediment Filter	Activated Carbon Filter	Reverse Osmosis Membrane	Activated Carbon Filter	SS Steel
	5 micron	CTO	75us-gpd	CTO	

PERFORMANCE & TECHNICAL INFORMATION

The performance of the WRO330 system can be characterised and judged by the quality of the water produced by the system. By measuring the contaminant removal performance and flow rates of the system, its operating status can be easily evaluated.

Factors which affect performance

Performance of the reverse osmosis membrane is affected by several factors which must be considered when judging the condition of the system. The main factors which affect the systems performance are pressure, temperature, total dissolved solids (TDS) levels, recovery and pH.

Pressure

Water pressure affects both the quantity and quality of the water produced by the RO membrane. Generally, the more water pressure, the better the performance.

Temperature

The reverse osmosis process slows with decreasing temperature. To compensate, a temperature correction factor is used to adjust the actual performance of the RO membrane filter to the standard temperature of 25°C. This allows the performance of the unit to be accurately gauged against published standards. Temperature does not affect the concentrate flow rate.

Total Dissolved Solids (TDS)

The minimum driving force which is necessary to stop or reverse the natural osmosis process is termed osmotic pressure. As the TDS levels increase in the water, the amount of osmotic pressure increases and acts

as back pressure against reverse osmosis processes. Osmotic pressure becomes significant with TDS levels are above 500mg/l (ppm).

Hardness

Hardness is the most common membrane foulant. If ignored, the relatively harmless component of feed water will scale a membrane over time. The use of a softener will reduce the fouling effect on the membrane. One way to detect too much hardness in the feed water is the weight of a membrane installed for a period. A fouled membrane (dried) will weigh significantly more than a new membrane. The increase in weight is a result of precipitated hardness inside the membrane.

Iron

Iron is another common membrane foulant. There is a range of iron types, some which cannot be removed by an iron filter. Clear water iron can be removed more effectively by a softener. Particulate iron can be removed more effectively by a 1micron filter. Organic-bound iron can be removed only by activated carbon or macroporous anion resin. If there is enough iron to exceed EPA secondary drinking water standard and softening the water is not an option and the iron is soluble, then an iron filter is appropriate. If none of these are an option, then regular replacement of membranes will help with this issue.

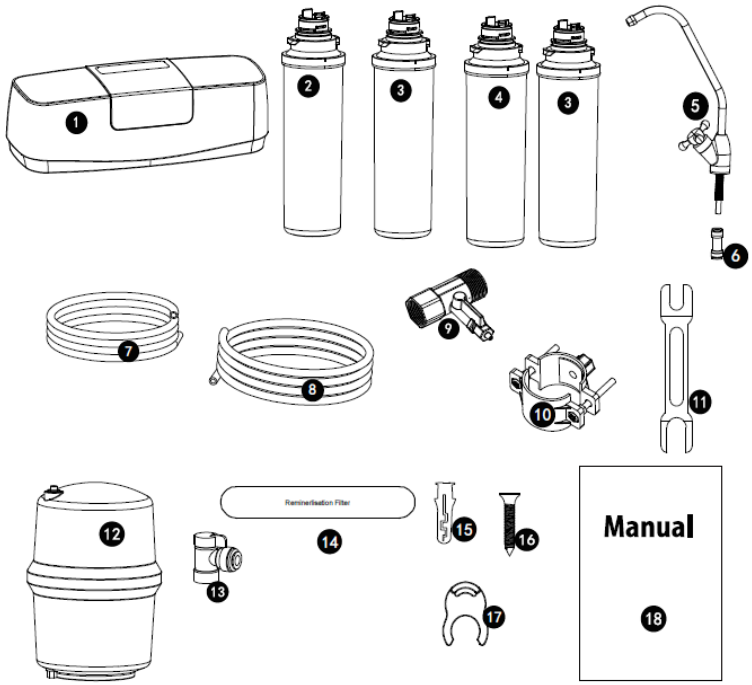
Product Water Recovery

Product water recovery plays an important role in determining membrane and system performance. Recovery refers to the amount of water produced in relation to the amount of water sent to drain. The standard calculation is. Recovery % = Product Water / (Product Water + Wastewater) x 100.

The system uses a flow control assembly to restrict the flow of wastewater the drain. This restriction helps maintain pressure against the membrane. The sizing of the flow control assembly determines the recovery rating of the system. The system is designed with a recovery

rating higher than 36%. Depending on temperature, pressure and water quality, the actual recovery value may be slightly different on each system.

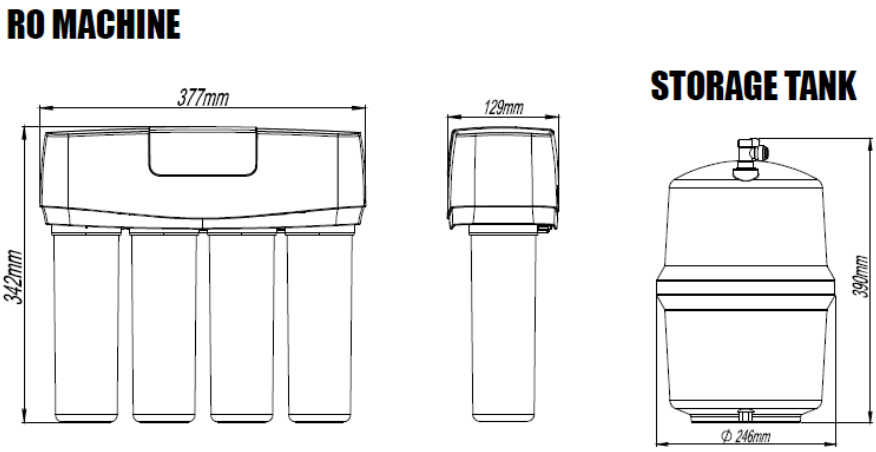
PACKAGE CONTENTS



1. RO Module Assembly
2. Sediment Filter Cartridge
3. CTO Filter Cartridge
4. RO Membrane Cartridge
5. Faucet
6. Faucet Connector
7. Tubing (1/4”)
8. Tubing (3/8”)
9. Three-Way Valve
10. Drain Clamp
11. Tubing Tool
12. Storage Tank
13. Tank Ball Valve
14. Remineralisation Filter
15. Wall Plugs
16. Screws
17. Securing Clip
18. Instruction Manual

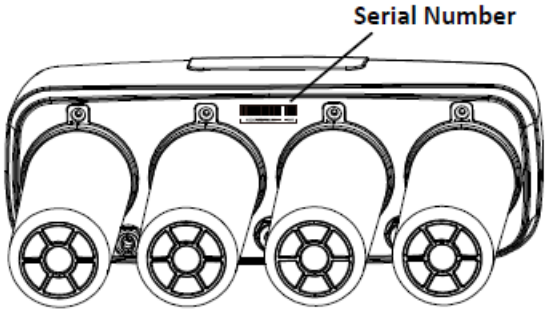
SYSTEM DIMENSIONS AND SERIAL NUMBER

Dimensions

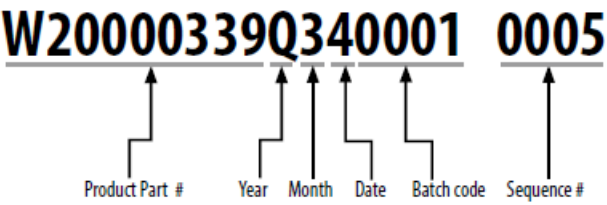


Serial Number

The serial number is located at the rear of the RO system.

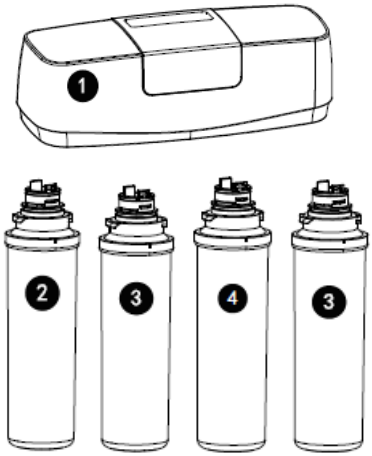


How to read your serial number:



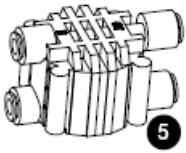
(W20000339): Product part #
(Q)YEAR: "Q" stand for year 2020,"P" stand for year 2019, "O" stand for year 2018, "N" stand for year 2017, "M" stand for year 2016...
(3)MONTH: 1(JAN), 2(FEB), 3(MAR), 4(APRIL), 5(MAY), 6(JUNE), 7(JULY), 8(AUG), 9(SEP), A(OCT), B(NOV), C(DEC)
(4)DATE: 1 2 3 4 5 6 7 8 9 (A)10 (B)11 (C)12 (D)13 (E)14 (F)15 (G)16 (H)17 (I)18 (J)19 (K)20 (L)21 (M)22 (N)23 (O)24 (P)25 (Q)26 (R)27 (S)28 (T)29 (U)30 (V)31
(0001): Batch code
(0005): Sequence #

SYSTEM OVERVIEW



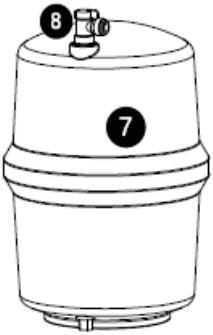
1. **RO Manifold Assembly**
   The manifold assembly serves as the functional hub of the RO system by directing the flow through each of the systems main components.
2. **Sediment Filter (PP)**
   The sediment filter screens out particulate material, such as dirt, sand, or rust, which may clog the other filters in the system.
3. **Activated Carbon Filter (CTO)**
   The activated carbon prefilter reduces chlorine which may damage the RO membrane filter. It must be regularly checked and/or replaced to prevent premature membrane failure and poor water quality.
4. **Reverse Osmosis Membrane**
   The RO membrane reduces dissolved substances and other microscopic impurities. It consists of a membrane envelope wound around a perforated tube. Product water diffuses through the membrane to the inside of the envelope where it flows to and is collected by the tube. Impurities are flushed away in the drain stream. The RO membrane featuring in the WRO330 system offers exceptional contaminant rejection, application versatility and long-life expectancy. The membrane material is sensitive to an attack by chlorine. The activated carbon filter must be maintained properly to prevent premature failure of the RO membrane.

5. **Automatic Shut Off Valve**
   The automatic shut off valve automatically stops the flow of water through the RO system when the storage tank is full. This is located inside the manifold assembly.



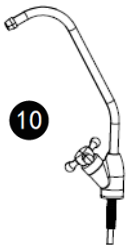
6. **Drain Line Flow Control**
   The flow control assembly or concentrate flow control regulates the flow rate of the flushing (drain) stream and helps to maintain pressure in the RO membrane filter. This is located inside the manifold assembly.

7. **Storage Tank**
   The storage tank collects and stores the water produced by the RO system. A compressed air diaphragm drives the water to the post carbon filter and faucet.
8. **Ball Valve**
   The ball valve provides a convenient way to lock water in the tank during transport and filter changes.

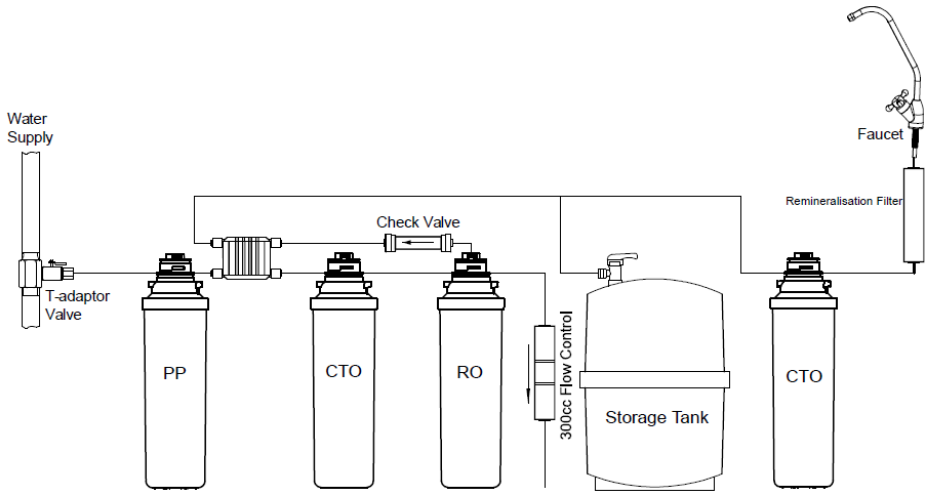


9. **Remineralisation Filter**
   The remineralisation filter adds essential minerals back into the water produced by the RO machine. Helping improves taste and helps maintain pH level.

10. **Faucet**
    The faucet allows the product water to be drawn from the system with a simple rotation of the handle.

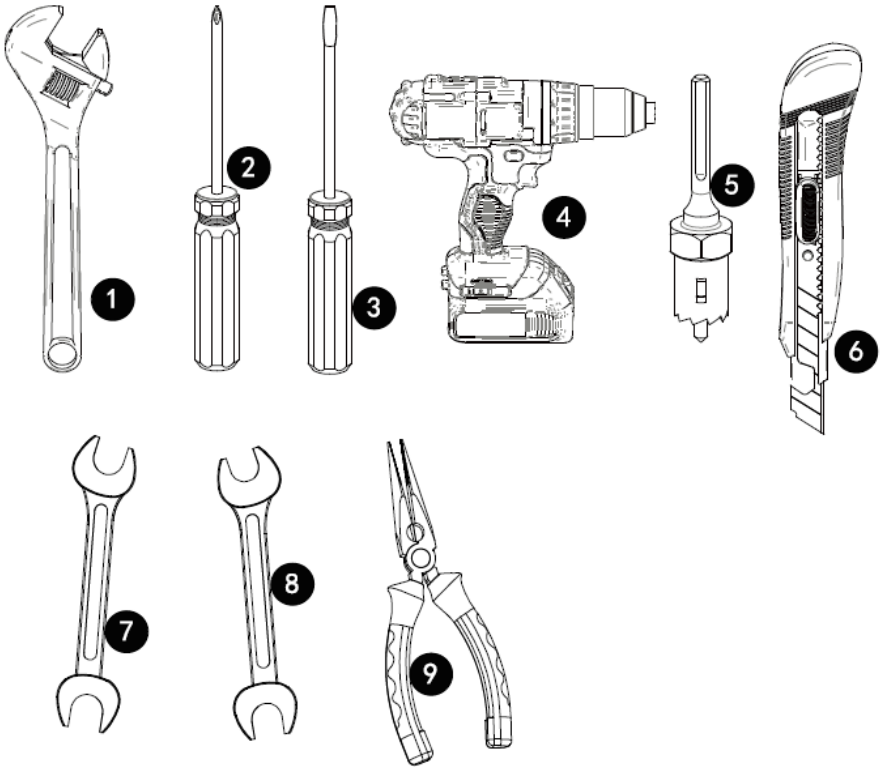


Flow Sequence



INSTALLATION

Suggest Installation Equipment



1. Adjustable Wrench
2. Phillips Screwdriver
3. Flathead Screwdriver
4. Electric Drill
5. Hole Saw
6. Utility Knife
7. Wrench 14-16mm
8. Wrench 19-21mm
9. Pliers

NOTE	Installations may vary, some extra connection fittings may be required.

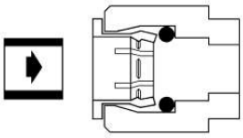
Tubing Connections

Familiarise yourself with the tubing connections on the manifold of the RO system.

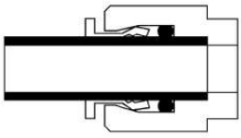
1. Water inlet feed. Inlet
2. Water from RO to tank Tank
3. Water from RO to faucet/remin cartridge Faucet
4. Waste water from the RO system. Waste

The following steps will enable you to install the system quickly and orderly. Some variations may be necessary depending on the installation.

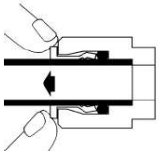
The WRO330 system features reliable and convenient speedfit tubing connections. Tubing is easily connected and disconnected from these fittings as follows.



1. Firmly push the tube in to attach, you should feel it pass the O ring.



2. Tubing is securely in place



3. Push in collar from both sides to release the tubing

NOTE	Use the blue securing clips for all tubing connection

Selecting WRO330 Installation Location

When selecting the location for your RO system, please ensure there is access to the bottom of the faucet for the attachment of the water tubing.

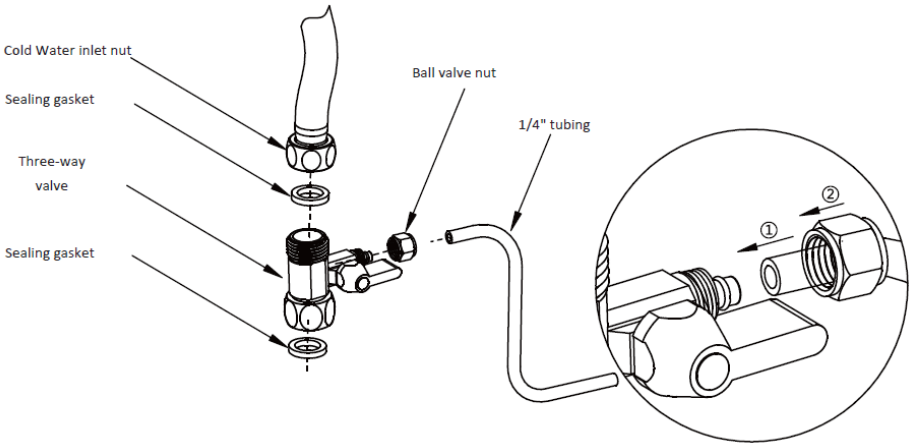
There should be no under sink obstructions which could prevent smooth tubing runs to the inlet, faucet, remineralisation filter, drain connection, storage tankas and RO module assembly.

The RO system assembly is designed to be installed on the countertop, or under the sink. It should be positioned such that there is access to an inlet water source and drain. The installation should also allow access for servicing and the replacement of filters.

Be sure the floor under the RO system is lean, level and strong enough to support the unit.

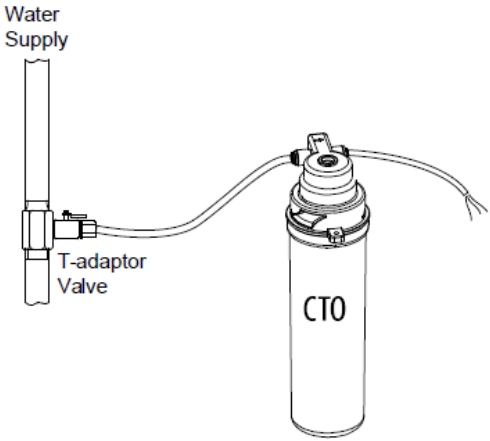
Installing the Three-Way Valve

1. Turn off the water supply and open a cold water tap to release any water pressure in the pipe.
2. Disconnect the hose pipe and install the three-way valve on the cold pipe, using an adjustable wrench to tighten it securely (avoid over-tightening and damaging the pipe).
3. Connect the cold-water hose to the three-way valve and tighten it with an adjustable wrench (avoid twisting or damaging hose).
4. Insert the ¼" tube (supplied) through the compression nut fitting on the three-way valve and press it onto the quick connect fittings Pushing it firmly until it reaches the end. Then, tighten the compression nut on the valve with an adjustable wrench.



Flushing the CTO and PP Filters

1. Take one of the CTO filters and remove the packaging.
2. Attach the filter to the filter cap by twisting it into the head.
3. Connect the ¼” tubing from the three-way valve to the inlet of the filter cap. Attach another piece of ¼” tubing from the outlet to either a drain or jug.
4. Open the three-way valve to flush the filter. Run water until clear, minimum of 3 minutes.
5. Once flushed, turn the three-way valve off, remove the filter from the cap.
6. Repeat these steps for the PP filter and other CTO filter.

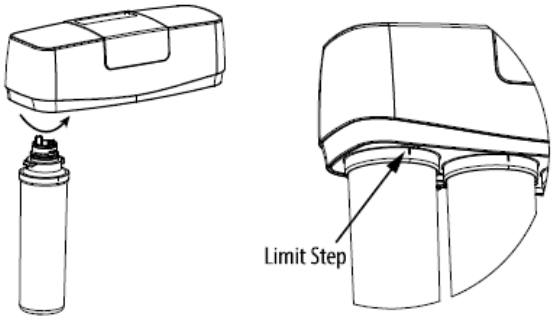


Connecting the inlet

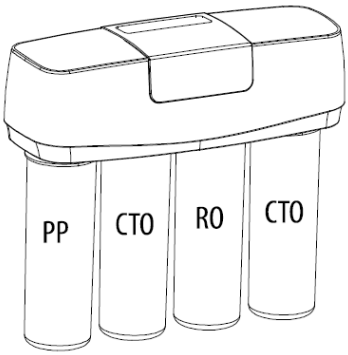
1. Once the filters have been flushed, take the ¼" tubing from the three-way valve. Cut to the required length, chamfer and grease the end and insert into the INLET connection of the WRO330 system.

Installing the filters

1. Install the PP filter on to the manifold as per the diagram. At the end of the rotation, make sure the filter passes over the limit step and is lined up facing front.



Install the other 3 filters as per the installation below.



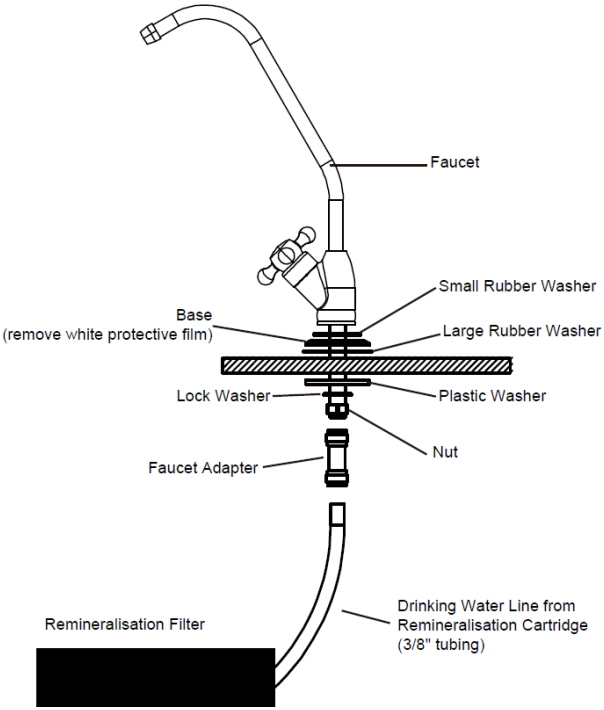
NOTE	Ensure all filters are installed properly and have pass the 'limit step'. Otherwise, the RO system will leak.

Faucet Installation

The faucet is designed to be mounted on the rear lip of the sink. It may be installed in an existing sprayer attachment hole (if the hole is the correct size), or a new hole can be drilled. It should be positioned so that the water is dispensed over the ink.

Make sure the surface is clean and level. Using a suitable 12mm drill bit, drill a hole in the desired location.

1. Install the tap as per the diagram below.

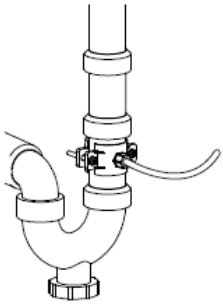


2. Tighten the nut until the faucet is securely held in place.
3. Grease the stem of the tap and take the faucet adaptor. Firmly push the adaptor on to the stem (approx. 1.5cm).
4. Select a location for the remineralisation filter, using 2 of the screws and bracket attach this too the wall.

5. Connect the 1/4” Male x 3/8” speedfit fittings to the inlet and outlet of the remineralisation filter.
6. Cut a piece of blue 3/8” tubing to go from the outlet of the remineralisation filter to the faucet adaptor. Make sure the tubing is chamfered 1mm and greased before firmly pushing it in to the speedfit connections (approx. 1.5cm)
7. Cut another piece of 3/8” tubing to go from the inlet of the remineralisation filter to the faucet port on the WRO330 system. Make sure the tubing is chamfered and greased before connecting to the speedfit fittings.

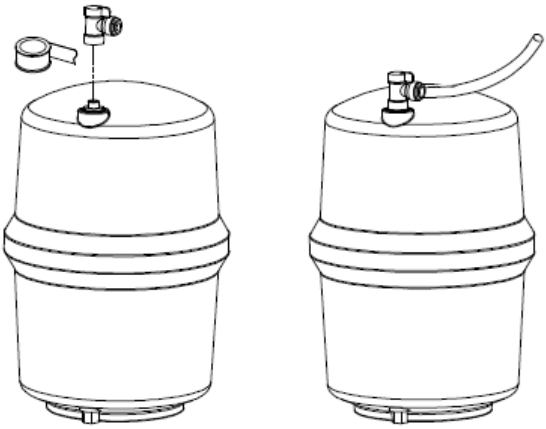
Waste Water Connection

1. Connect the drain clamp to the waste pipe (40mm), ensure the tube connection is **NOT** at the bottom of any horizontal pipe.
2. Mark the pipe where the waste hole is to be drilled. Remove the clamp and drill the waste hole using a 6mm drill bit, making sure you do not go through both sides of the pipe.
3. Clear any debris and align the hole in the drain clamp with the hole you have drilled. Hold in position and tighten the drain clamp.
4. Chamfer and grease one end of the ¼” red tubing and insert this into the drain outlet on the WRO300 system.
5. Use a pipe cutter to cut a suitable length of the ¼” red tubing, chamfer and grease the end and insert into the connection (Approx 1.5cm) on the drain clamp.



Connecting the Storage Tank

1. Apply Teflon (PTFE) tape to the threaded fitting at the top of the tank. Wrap tape around 10-12 times for a good seal.
2. Attach the ball valve and tighten to seal.
3. Take out the blue 3/8" tubing, chamfer and grease one end and insert into the ball valves speedfit connection. Firmly pushing it in, approx. 1.5cm. Cut to the required length to attach it the 'TANK' connection on the WRO330 system. Chamfer and grease the tubing and insert firmly, approx. 1.5cm.



Start-up Procedure

1. Double check all hoses are connected and are securely in position.
2. Open the three-way valve and storage tank ball valve.
3. Check system thoroughly for leaks. If any are found, shut the three-way valve and storage tank ball valve off and rectify the leaks.

4. Allow the system to run and fill the tank. You will hear the water running to drain. Once the water stops running to drain, the tank is full.
5. Open the faucet to flush the RO system, once the flow begins to slow down, turn the faucet off. Check for leaks again.
6. Allow the tank to fill again.
7. Once full, open the faucet and allow the water to run for 24 hours to break in the RO membrane and completely flush the system. This will allow your system to run at optimal efficiency.
8. Close the faucet and allow the tank to fill. Set up is now complete.

NOTE	Do not drink the water produced by the system until the start-up procedure has been completed.

SERVICE AND MAINTENANCE

Service Schedule

To keep the RO system operating properly, it is necessary to change the filter elements periodically. Typically, this should be done on an annual basis. Service frequency may vary depending on local water conditions. High sediment, chlorine, turbidity, or hardness levels may require more frequent filter changes.

Filter Element	Service Schedule
Stage 1 – Sediment Filter	6 months
Stage 2 – Pre-Carbon Filter	6 months
Stage 3 – RO Membrane Filter	24 months
Stage 4 – Post Carbon Filter	6 months

NOTE	Filter life may vary greatly depending on your water quality. The above schedule is only for reference.

When to replace your filters

When the water quality and taste is bad

TDS of the produced water is high

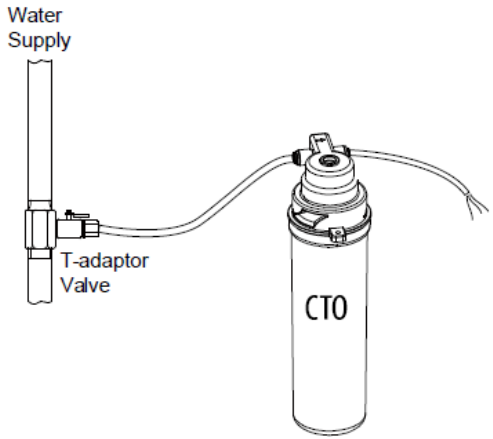
Product water rate decreases dramatically. PP filter or RO membrane may be clogged.

Filters are heavily clogged, almost no water is produced.

HOW TO REPLACE YOUR FILTER

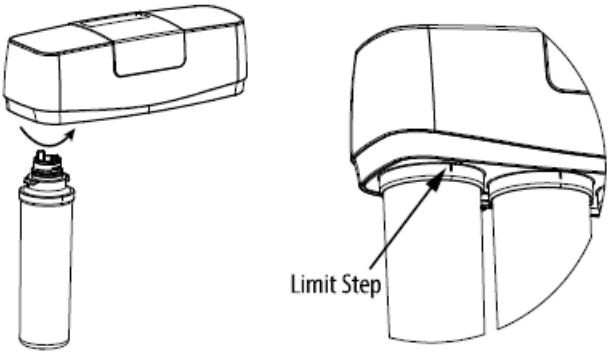
Flushing the new filters

1. To change your filters, close the three-way valve and ball valve on the storage tank off.
2. Open the faucet to release any pressure.
3. Rotate the old filter 90° anticlockwise and remove it.
4. Attach the new filter to the filter cap by twisting it into the head (originally supplied with the unit).
5. Disconnect the inlet tubing from the WRO330 system and connect the ¼" tubing to the inlet of the filter cap. Attach another piece of ¼" tubing from the outlet to either a drain or jug.
6. Open the three-way valve to flush the filter. Run water until clear, minimum of 3 minutes.
7. Once flushed, turn the three-way valve off, remove the filter from the cap.
8. Repeat these steps for the PP filter and other CTO filter.

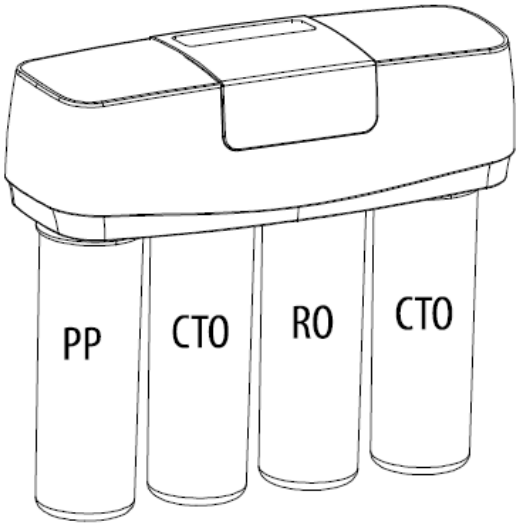


Installing the filters

1. Install the PP filter on to the manifold as per the diagram. At the end of the rotation, make sure the filter passes over the limit step and is lined up facing front.



2. Install the other filters as per the installation below.



Membrane replacement and flush

1. Turn the three-way valve and ball valve on the storage tank off.
2. Open the faucet to release any pressure.
3. Rotate the old filter 90° anticlockwise and remove it.
4. Install the RO membrane as per the 'Installing the filters' instructions.
5. Once connected, turn the three-way valve and ball valve back on.
6. Open the faucet to empty the tank (once water slows the tank is empty).
7. Close the faucet and allow the tank to fill up. You can tell its full because no water will be running to drain.
8. Once full, empty the tank. Repeat this step 2 times.

Additional Notes

Product flow rates are variable and can be affected by water temperature and pressure.

Disposal of the replaced filters should be in your general household waste. Filters cannot be recycled or reused.

When you are on vacation or not using the system for a long time. Please close the three-way valve. To be used again, turn the three-way valve on and empty the storage tank. Allow the tank to fill up and empty again. Complete these steps a further 2 times.

TROUBLESHOOTING

Problem	Possible Solutions
1. Insufficient supply of water	
a. Requirements greater than unit output	**a.** Use larger tank for more storage.
b. Insufficient feed water	**b1.** Clogged inlet tube, clean or replace. **b2.** Clogged prefilter, replace. **b3.** Clogged manifold, clean or replace.
c. Insufficient feed water pressure	**c1.** Same a (b) above **c2.** Increase feed line pressure.
d. Increase in feed water TDS	**d.** Same as (a) above.
e. Reduced feed water temperature	**e.** Same as (a) above.
f. Filter element is clogged	**f.** Replace filters.
g. RO membrane is clogged	**g.** Replace RO membrane.
2. Poor Water Quality	
a. All (1) above except (a) and (e)	**a.** All (1) above except (a) and (e).
3. Bad Tasting Water	
a. Polishing filter exhausted	**a.** Replacing polishing (CTO) filter).
b. RO membrane is exhausted	**b.** Replace RO membrane.
c. Foreign matter in storage tank	**c.** Clean, sanitise or replace storage tank.
d. Leakage happens somewhere in system	**d.** Find the leak and fix. .
4. Bad smell in water	
a. Polishing (CTO) filter is exhausted	**a.** Replace polishing (CTO) filter
b. Filter element is exhausted	**b.** Replace filter element.
c. Units needs disinfection	**c.** Sanitise unit.
5. External Leak	
a. Tubing not fully seated in fittings	**a.** Check all connection are secure
b. Tubing damaged or abraded in seal sea	**b.** Re-cut tubing or replace.
6. Foaming at the faucet tip	
a. Storage tank is positioned on its side (Dissolved air cannot escape)	**a.** Place tank in vertical position
7. Fast Flow to Drain	
a. Defective flow control assembly	**a.** Replace flow control assembly
8. Black specks in product water	
a. Carbon fines	**a.** Flush polishing (CTO) filter
9. Low faucet pressure	
a. Inadequate pressure in storage tank	**a.** Adjust air pressure in storage tank
b. Polishing (CTO) filter is plugged	**b.** Replacing polishing (CTO) filter

WASH WATER WRO330 WARRANTY

We offer a 12-month parts only warranty on all reverse osmosis (WRO) units from the date of purchase, covering manufacturing and material and material defects when used as instructed. We will replace or repair defective components, but installation and on-site technician costs are not covered.

PLEASE NOTE – The warranty has the following conditions, and is not covered by the following:

- Damage caused by high water pressure. An 8bar pressure limiting valve is required on the inlet where daytime static pressure exceeds 5.0bar.
- The WRO330 is only suitable for potable water.
- Callouts due to incorrect installation. If you have any questions when installing, please call Wash Water on +44 (0) 1379 873 070.
- The use of any other hoses/tubing than those supplied with the unit.
- Improper use that violates the instructions provided in this manual and causes damage.
- Damage or malfunction caused by using the product beyond its specified operating conditions.
- Intentional or unintentional damage caused by the user.
- Damage caused by force majeure events (such as natural disasters, flood etc).
- Machines that have been repaired by unauthorised professionals.
- The use of parts or filters from a supplier other than Wash Water.
- Filters are not covered under warranty. – Filter replacement plans are available.
- Any callouts within the warranty period that are due to external influences affecting the operation of the unit will incur a charge.

The above does not affect your statutory rights.

For Full Terms and Conditions visit our website – www.wash-water.uk/termsandconditions

CARTRIDGE PLANS

Save time and money and never miss a filter change by signing up to one of our cartridge plans. Contact Wash Water on +44 (0) 1379 873 070 or visit our website www.wash-water.uk to see the cartridge plans we have available.