



H1-302BN Undersink RO System



**HIGH
PERFORMANCE
FILTRATION**

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Technical Overview

I. Important Notes

For correct operation of this appliance, it is essential to observe the manufacturer's instructions.

If this system is to be installed permanently as a POU system, installation must be carried out by a qualified plumber or authorised technician to comply with Australian Plumbing Codes. **This system contains electrical components and plumbing components; Use caution and if leaking occurs, turn the power off immediately before conducting maintenance or repair to the system.**

This appliance is not intended for use by persons (including children) with reduced physical, sensory, or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

Children should be supervised to ensure that they do not play with the appliance.

If the supply cord is damaged, it must be replaced by a special cord or assembly available from the manufacturer or its service agent.

This RO system is certified to WaterMark Standards AS/NZS 3497 Under the Certificate number 022780. WaterMark certification is the level of certification required by law for a licensed plumber in Australia to install a water filter system.

You will find most answers to your queries can be found in this instruction manual – please thoroughly read through this manual from front to back including the troubleshooting page before contacting customer support.

II. Before You Purchase/Open

The system requires specific working conditions to be met before installation, some general guidelines* are listed below. If these conditions are not met, the system may not be suitable for the application and may not function as specified.

These systems are designed for filtration on mains water for the removal of minerals, salts and other impurities. The system may also be used on other sources such as Bore Water however you should enquire with the supplier before purchasing for any use other than mains water to ensure the system is correct you the application.

Feed Water Conditions	Min	Max
Inlet Pressure	400 kPa*	700 kPa
Temperature	4.5°C	38°C
pH Level	2	11
TDS	0 mg/L	2,000 mg/L
Iron	0 mg/L	0.3 mg/L
Manganese	0 mg/L	0.1 mg/L
Hardness	0 mg/L	200 mg/L



HIGH PERFORMANCE FILTRATION

Reverse Osmosis Filter System

MODEL: LSRO-302BN

Rated Voltage	240V
Rated Frequency	50/60Hz
Rated Current (max)	1.00 A
Max Pressure (Inlet)	700 kPa
Min Pressure (Inlet)	400 kPa
Limited Pressure	480 kPa
Min Available Flow	5L / Min
Max Permeate Flow	8L / Hour
Water Temperature	1°C - 30°C

For correct operation of this appliance it is essential to observe the manufacturer's instructions. Installation & commissioning should be conducted by a qualified plumber or authorised technician. This system should be operated & maintained by a person with adequate knowledge and experience of Reverse Osmosis Systems.

Keep out of reach of children



*Minimum inlet pressure is 400 kPa for the system to function correctly. Running the system lower than 500 kPa will cause the rejection rate to decrease which will show as a higher running TDS on the microcomputer. An additional booster pump may be required on the system for lower pressure applications.

III. Booster Pump Option

For applications where the inlet feed pressure is below 500 kPa, it is recommended to select the Booster pump option when purchasing the system. The booster pump supplies a steady, constant high pressure to the membrane filter specifically (~600 kPa) which improves the osmotic pressure, resulting in a better rejection rate (lower TDS) and an improved recovery rate (wastewater to drinking water ratio). When a booster pump is used, the PLV is changed to a 350 kPa version as to provide consistent controlled pressure to the pump.

If you do not know what your incoming pressure is, it should be checked prior to purchase. If you are unable to check the pressure or are still unsure, it is best to choose the pump option.

NOTE: It is possible to retrofit a pump to an existing system however due to the complex nature of the work, this will need to be done by the manufacturer at their facility. Additional charges may apply for return freight & handling.

IV. Space Requirements

The LSRO-302BN system is designed for installation under the sink as a free-standing unit with the plumbing & electrical connections at the rear of the unit. When choosing an installation location, keep in mind servicing of the unit.

System Dimensions, Depth: 39cm, Width: 15cm, Height: 39cm

V. Before You Begin Installation

All components that come pre-assembled will need to be thoroughly checked before installation. Due to transit, fittings and other components may be loosened or unseated – ensure fittings, tubing and filters are inspected before continuing. **Ensure the system is inspected for damages prior to employing a plumber for installation. The system must be plugged directly into a single surge protector, then into a 240v (10A) GPO. Failure to do so may void warranty for the electrical components.**

VI. What is Reverse Osmosis

The Reverse Osmosis Membrane is the workhorse of any RO system. It is constructed from a wrapped semi-permeable membrane material that uses pressure to separate impurities such as ions, minerals and other larger molecules from the water, carrying them to waste.

*Reverse Osmosis membranes do not have a L Capacity for filter replacements due to the variables that can make the filter life vary significantly. This is mostly due to the water quality. The most accurate way to test an RO membrane for effectiveness is to use a TDS Meter. TDS meters measure the total dissolved solids in ppm in the water. To test your membrane, get a baseline reading out of your tap (unfiltered water) and then compare that to a reading directly off the membrane (disconnect the tube before it goes into the post filter cartridge). You can expect to get a difference of approx. 90-98% between the readings which indicate that the membrane is functioning correctly. If this % is beginning to drop below 90% it suggests that the RO membrane requires replacement.

VII. Example Applications for the LSRO-302BN

The 302BN system is versatile and suitable for a range of different uses. The main applications are **Domestic Drinking Water, Cooking & Food Preparation, Filtration for Coffee Machines & Other Appliances.**

Domestic Drinking Water is the most common where the filter is installed under the sink and filtering the mains water (council water). This removes the chemicals such as chlorine and other mineral levels such as hardness (limescale) and even Fluoride & heavy metals.

Cooking & Food Preparation benefits with filtered water as there are no impurities or chemicals soaking into the food you are cooking.

Filtration for Coffee Machines is highly important to help protect your investment in an expensive appliance. Not only does it improve the taste of brewed beverages, but it also protects the delicate components from damage due to scale, chemicals, or salts. The 302BN system also includes an alkalisng stage to balance the alkalinity of the water and protect the components from corrosion from RO water.

Removing and Replacing Outer Cover

The H1-302BN System is self-contained and has 2 main plastic panels covering the internal components. The below photos and directions explain how to correctly remove and replace the panels. NOTE: The model shown in the photo may be different, however the panels are the same; Use this for reference only.

1. To remove the side panel, slide the black side panel towards the back of the system until the panel stops.

Remove the panel carefully as to not bend or damage the guide lugs.

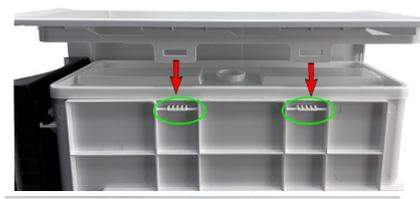
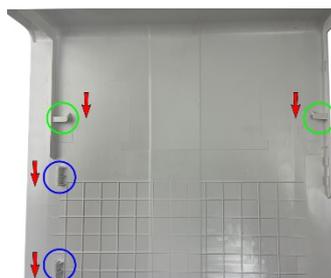
2. To remove the white panel, unclip the lugs circled green. Lift the panel straight up until it is free from the guide lugs.

3. The white panel has 4 guides that need to be lined up when re-installing the panel. The white panel needs to be placed against the side of the housing, lining up these lugs with their corresponding ports on the housing. Once the panel is flush and aligned slide the panel down until the lugs are at the correct position.

4. When the lugs are aligned, push the panel down and it should clip in both at the top and bottom and be held securely. NOTE: If there are any bulges or it doesn't quite fit correctly, it is due to one of the lugs not being seated correctly – repeat step 3 to align the lugs.

5. The black panel has guide lugs at the top/bottom and one clip at the back. For these to clip in, you will need to push the panel on and line it up. When sliding the panel across to lock it in, it will go slightly up as it passes over the guide into the locked in position.

6. Arrange the tubing and power cord in the allocated cut-outs, then slide the panel across until it locks in.



Installation Introduction

I. Working with Quick Connect Fittings

If you come across a push-fit fitting, you need to firmly push the tubing into the opening until you feel a “click” which signifies that the tubing has pushed through the internal O-ring and is seated correctly. If leaking occurs, it may be due to roughly cut tubing OR the tubing is not pushed in far enough. To remove tubing from push-fit fittings, depress the floating collet (shown in below photo), then pull the tubing out.



II. Flushing

Laws and regulations prevent us from wet testing these filtration systems prior to sending them out. Therefore, during assembly of these systems they are not pressure tested so it is possible to have a small leak in a connection (which is simply fixed by re-seating the tubing or tightening a fitting). As the filters are dry packed, the systems will require flushing before first use. This is explained further along in this manual.

Installing Connections

I. Feed Water Connection

Using the supplied Feed Water Adaptor [FWA] (Pictured right), Locate the connection between the kitchen tap & cold-water line (Usually a flex line). Shut off the incoming water and bleed pressure from the line by opening the tap. Disconnect the flex line from the cold-water inlet and install the Feed Water Adaptor in between.

DO NOT apply thread tape to these connections as they are designed to use the washers only – Thread tape is only required on the male thread of the FWA if it is not installing to a flex line.

With the blue handle facing in line with the cold-water line (As pictured) the valve is in the off position. During this point, you can turn the water back on to check for leaks in the valve installation.

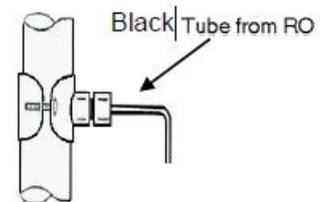


II. Drain Clamp

The best installation point for the drain clamp is below the S bend (Trap). The Vertical tailpiece is ideal.

1. Mark the position of the hole on the pipe and drill through using a ¼” (6mm) drill bit (One side only).
2. Unscrew the clamp and wrap it around the pipe, loosely screw it back up leaving enough slack so you can position the hole with the outlet of the clamp.
3. Tighten the clamp to create a seal.

Figure 2. Drain Clamp Location
ENSURE YOU INSTALL AFTER S
BEND ON THE DOWNPIPE



III. Cartridges

When the system is supplied new, the cartridges will already be pre-installed. Instructions on how to install/remove cartridges can be found in Maintenance → Replacement Cartridges

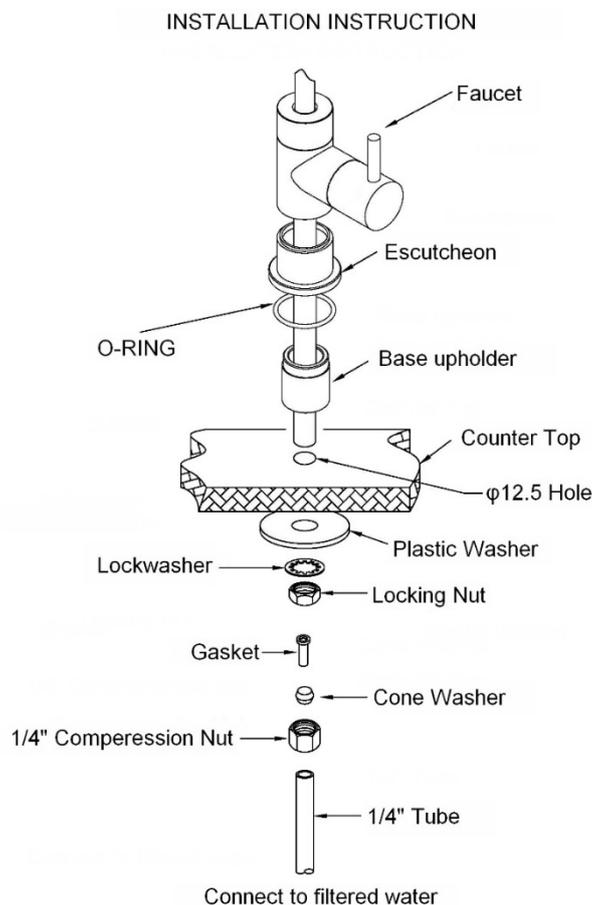
IV. Drilling Faucet Hole - Stainless Steel Sink)

1. Drilling through a stainless-steel sink can be achieved by marking the location with a centre punch and drilling a 3/16" Pilot Hole – When drilling through stainless steel – lower speeds are better with a sharper bit to avoid burning the surface of the sink.
2. Using a 1/2" or 7/16" carbide or sharp drill bit, enlarge the hole to fit the stem of the faucet (7/16" Thread)

For installation on other types of sinks – such as stone, it is best to employ a specialist to drill the hole to ensure it is done correctly – where possible it is best to get the sink manufactured with a pre-drilled hole.

V. Mounting the Faucet

1. Refer to the below diagram on the components of the faucet
2. Remove the required fixings of the faucet and thread the faucet through the hole.
3. Re-assemble the faucet fixings in the correct order and tighten into place.
4. The Faucet uses a compression fitting to connect to the filtered water tubing. Compression fittings crimp the tubing around a stem (gasket) to seal the water, the compression ring then prevents the tubing from being removed. In this instance, thread the Compression nut over the tubing, followed by the cone washer. Then firmly press the gasket into the end of the tubing. You can then insert the tubing into the base of the faucet and secure it by fastening the compression nut onto the bottom of the faucet thread.



VI. Storage Tank Assembly

1. Using standard white plumbers' tape – wrap the stainless-steel port (top of tank) with 6 – 8 even rounds of tape.
2. Install the 90° Tank Valve Elbow firmly

NOTE: At no point should you need to tamper with the air valve on the tank during new installation – these tanks are pre-set to ~7psi (while empty). This is a bladder tank, and the water will go in/out of the tank on the same water line.

Connecting the RO System

I. Fittings

On the back of the system, you will find the connection points labelled Faucet, Tank, Drain, Inlet. This is where all the filtration tubing will connect.

II. Tubing

It is best to allow enough excess tubing to be able to easily move the system out from the cupboard when maintenance is required.

Measure a length of white tubing (Inlet Tubing) to be installed between the FWA and the 'Inlet' port on the filter system. Cut using supplied tube cutters. When connecting to the system refer to the 'Quick Connect Fitting' Instructions. To connect to the FWA, unscrew the lock nut until it hits a stop end. Push the tubing in firmly until you feel it 'seat'. Finally, finger tighten the locking nut to secure the tubing – this will prevent the tubing from releasing.

Measure a length of blue tubing to go between the Storage Tank & the 'Tank' port. Measure a length of black tubing to go between the Drain clamp & the 'Drain' Port. Measure a length of white tubing to go between the Faucet & the 'Faucet' port.

NOTE: Tubing colour is not important; it is just to help identify each tubing when installed & to help with troubleshooting. If you have used different coloured tubing, remember to notify technical support of the change if you need help with the unit.

If the system was supplied with additional extras, refer to the end of this manual for more information.



System Start Up & Operation

I. Plumber Commissioning Steps

When you are confident that everything is connected correctly, do the following steps to start up the system and commence flushing.

1. Open the Faucet tap – this helps to bleed out air when starting the system.
2. Close the storage tank valve for now – we want the system to fill full of water and force out air while 'wetting' the filters.
3. Smoothly open the FWA, allowing water to enter the system. The system is fitted with a control solenoid valve so water will only be able to make it to the first filter before hitting the valve. You should be able to hear the water flow stop once it hits this point. NOTE: At each step – monitor the system for any signs of leaking.
4. Turn the power on to the system – this will activate the microcomputer and open the solenoid valve. 'FSH' will be displaying on the Micro Computer meaning the system is conducting a flush. During a flush cycle, most of the water will be flowing out the drain line with minimal/no water coming out the faucet until the flush cycle is complete. The Flush lasts for ~ 2 minutes.
5. Once the flushing is complete, allow the system to run for 5-10 minutes until any air has been purged. It is common for the water to come out cloudy and black while it is new – this is just air bubbles and carbon fines. You now have a steady stream of water flowing out the tap (this will only be a trickle of water, but it should be relatively steady).
6. After 5 minutes and once it is flowing steady, shut off the faucet tap. The incoming water should shut off within 20 seconds of this. Open the tank valve and allow the tank to begin filling after a 20 second delay.
7. The tank will be full within 2 hours depending on several factors. Once the tank is full the system will shut off.

II. Client to Complete Commissioning

Note for Plumbers: At this point, if you are confident that the system is functioning correctly and there are no signs of leaks or any concerns, you can finish your portion of the installation at this point – ensure that the client is aware of the following steps to conduct next. We suggest that you

(As the plumber) understand the remaining portion of the manual in case the client has further questions or to help basic troubleshooting.

8. When the tank has had long enough to fill, open the faucet tap on the sink and allow all the stored water to flush out the system. You should notice some discolouration/cloudiness which is normal. Repeat this process at **least** 2 times to clear the fines from the system. The RO membrane has a small amount of food grade anti-bacterial preserve inside it which will be flushed out during these flushes. Air bubbles are common to remain in the system for up to 2 weeks, but they will disappear quicker if the system is flushed more or used frequently.
9. The system is an alkaline unit which means minerals are dissolved into the water to balance the pH and 'alkalise' the water. When the system is new the pH can be higher than normal (which is still safe to drink) but you may notice a 'bitter' or 'metallic' taste in the water which is caused by the pH, **NOT** from any harmful chemicals or plastics. If you are not accustomed to drinking RO water or Alkaline water, you may notice the water may taste 'strange' to your individual palate. This is due to the pH level in the water and once your body adjusts, you will no longer have an issue with taste.

III. Automatic Shut off

This system is fitted with automatic shut off. It is designed so that while the tank is full of water, the system is under pressure – this creates back pressure on the pressure switch and closes off the production water which will stop the water flow to the drain. When you draw water from the system, it will start back up and begin to produce water after a short delay. The water is produced @ 8L/Hour +/- so if you take 1L of water, you can expect the system to run for approx. 5 – 15 minutes. Keep this in mind in case you hear running water and think the system is 'leaking' or 'not shutting off'. The system will be fitted with a 45psi/35psi pressure switch. This means that the tank pressure (output pressure) will be up to 45psi (~3.1 BAR) while the tank is full.

As the tank drains the pressure will slowly decrease until it reaches 35 psi (~ 2.4 BAR). This will trigger the system to 'turn on' and begin to produce water again, refilling the tank.

IV. Turning the System On/Off

If for any reason the system needs to be turned off – for example if leaking occurs or you are going away for over 48 hrs, follow the below steps to shut down the system.

1. Turn off the Feed Water Connection under the sink by turning the blue valve 90°.
2. Shut off the Storage Tank by turning the blue valve 90°
3. Briefly open the Faucet tap to bleed out excess line pressure and then close it again.
4. Turn off the unit at the power.

To start the system, open the Feed Water Valve and Storage Tank Valve & turn the power back on. The system will then perform a 2-minute flush. If the system has been shut down for over 1 week – discard a full tank of water after the flush has completed.

Micro Computer IC 109

I. Overview

The LSRO-302BN unit is fitted with the IC-109 microcomputer that provides added benefits and features to the RO system. It helps to notify when filters require changing, monitors water quality (ppm), controls membrane flushing & also has inbuilt pressure sensors for automatic operation and leak shut off safety. Lights 1 through to 5, when the lights are blinking on the unit it means that the corresponding filter requires changing. The '!' symbol refers to the TDS quality, when this light is on, the TDS has exceeded the warning limit. The 😊 symbol should be lit while the system is working, and the TDS is below the limit. The Set button is used to cycle through the programs and the Zero button is used to both reset filter change times (when alarming) and also to increase/decrease values.

The LED Display will display different values while operating.

SAC – Water supply is insufficient flow/pressure, usually when water is turned off

FSH – The system is running a membrane flush usually when turning the system back on

- The number displayed refers to the TDS reading coming off the membrane filter

NOTE: The TDS of the water coming out the faucet will be higher as the low pH/TDS membrane water runs through the alkaline filter before running to the faucet tap. The TDS monitor is a calculation of EC at a 0.5 factor with a tolerance of 5% +/-

II. Default Settings

The Micro Computer is pre-programmed with the following settings for filter change times and TDS monitoring. These settings are set as per the recommended maintenance inline with the systems extended warranty.

To preview the default settings:

1. First, press and hold the Setup button for 2 seconds, this will display the first setting mode. The LED will show 106 and light 1 will begin to blink. Factory settings are 106 which indicate that the first filter replacement is sent to alarm every 6 months. The first digit signifies the filter number, and the last 2 digits signify the month.
2. Press the Setup button to bring up the filter 2 timer. It will show 206 and light 2 will blink. The factory setting for 206 means the 2nd filter replacement reminder alarm is set to 6 months
3. Press the Setup button to bring up the filter 3 time. It will show 312 and light 3 will blink. The factory setting for 312 means the 3rd filter replacement reminder alarm is set to 12 months
4. Press the Setup button to bring up the filter 4 time. The LED display will show 040 and light 4 will begin to blink. 040 indicates the TDS limit of the RO membranes. This means when the TDS is above 40 ppm, the replacement change light will blink, and the membranes will require replacement.
5. Press the Setup button to bring up the filter 5 time (post filter). It will show 512 and light 5 will blink. The factory setting for 512 means the 5th filter replacement reminder alarm is set to 12 months
6. Press the Setup button to cycle back to the 4th filter (membrane), this setting is the time-based reminder for the RO membrane – the Membrane is set to alarm at either 40ppm or 36 months (whichever happens first)
7. If you want to return to original settings, hold the Setup button again for 2 seconds and wait for two beeps to sound.
8. If you need to change multiple settings, do them all in sequence then press and hold the Setup Button for 2 seconds and wait for the two beeps to complete all the settings.

III. Functionality

1. After completed installation, the LED will show “FSH”, and the system will flush the membranes for 2 minutes. After flushing the system will start to produce RO water, the micro controller will start to display a TDS value after a few minutes.
2. When the tap is opened and the pressure drops below 35 psi, the system has a delay before it will start to produce water again. Likewise, when the system is full, there will be a slight delay before the valve shuts off. This ensures the system doesn't frequently turn on/off.

IV. Changing Computer Settings

Factory settings for TDS do not suit everyone, 40ppm is just a guide to suit a wide range of applications. If you want to set the membrane to trigger when the Rejection Rate is <90% you will need to do the following calculation, using **200 ppm** as an example.

$$200 \times 0.1 = 20$$

Therefore you would set the alarm to 20ppm by following the below steps. We would not suggest setting the alarm any lower than 15ppm. Due to the sensitivity of the TDS meter and its calculation factor of 0.5 based on EC.

It is not recommended to change setting 1, 2, 3 & 5 without contacting the manufacturer to confirm.

1. Press and hold the Set button for 2 seconds until stage 1 begins to flash. Use the SET button to cycle through to your desired stage.

2. When the stage you want to modify is flashing, use the ZERO key to increase the number, if the number you want is lower, hold in the ZERO key and it will reset back to 0 and you can press SET to increase from there.
3. Once each setting has been changed, hold in the SET button for 2 seconds. 2 beeps will signify that the new settings have been saved.
4. NOTE: If you made a mistake and are unsure what the previous options were, don't press anything and the screen will eventually go back to normal without saving the settings.

V. Resetting Reminders

When the system is alarming for a filter change, the filter replacement light will begin to flash, and the alarm will sound. Each time water production starts, the alarm will sound for 1:30 minutes. This will occur every time until the filter reminder has been reset.

When the filters have been replaced, hold down the "ZERO" Button for two seconds until you hear 2 beeps. The filter replacement light will shut off and the timer will reset.

NOTE: When you replace the new RO membranes, the TDS value may be higher than the alarm setting. This is due to the chemical preservatives inside the membrane. After adequate flushing, this sanitiser will be removed, and the TDS will stabilise to normal levels. Due to this, the Micro-Computer alarm has a 4-day delay. If the TDS has not stabilised after 4 days, please contact the manufacturer.

VI. Leak Detection

The LSRO-302BN System is designed with an inbuilt tapered catch tray underneath the filters. This channels liquid to a point at the back of the unit where a probe is located. This probe connects to a leak shut off device that controls the incoming water supply to the system. In the event that water creates a circuit over the 2 probes, the valve will trigger and alarm to notify of a leak. For the system to be able to be turned back on, the leak will need to be rectified and the bottom tray will need to be dried out.

It is common for some water to drip out of the filters when changing so check to see that no water is in the tray.

Maintenance

I. Replacement Parts

Filtration tubing should be replaced periodically (about every 3 – 5 years). There is no specific time. Fittings should be replaced every 3 – 5 years due to wear & tear.

We suggest replacing the Pressure Limiting Valve every 2 years. Pumps may require replacement over time.

II. Replacement Cartridges

As this system is a quick-change unit, unlike regular systems, this unit does not have housings. Rather, when you replace the filters, you are essentially replacing both the housing and the filter. Due to this, you essentially have a 'new system' every time you replace filters. The only remaining parts are the fittings and tubing which are replaced periodically as stated above.

Cartridges have a varying life span but generally can be replaced under the following guidelines under normal working conditions; Stage 1, 2 – Replace Every 6 Months. Stage 3, 5 – Replace Every 12 Months. The Membrane (Stage 4) can vary significantly depending on a range of factors including but not limited to water quality and usage volumes. We generally find that on poor quality water such as Bore water*, or Mains Water in areas of WA, NT and SA the membranes generally last between 1 – 2 Years. Other areas where the water is less harsh the membrane can last anywhere up to 4 years without requiring replacement. Utilise the TDS monitor on the system to gauge when replacement is required using the Rejection Rate calculation.

Troubleshooting

Problem	Possible Cause(s)	Solution
Leaking between fitting & tubing	Unseated Tube	Check all tubing connections by firmly pushing them into the fitting. Check that there are no kinks or any obvious issues. If the problem persists, remove the tubing and check for a clean cut with no burrs. Push the tubing back in and try again. If this does not work, please contact customer support.
Leaking from Feed Water Valve	<ol style="list-style-type: none"> 1. Damaged or Missing Washer 2. Not Tight Enough 3. Thread is too Short 	<ol style="list-style-type: none"> 1. Check the valve to see if the washer is inside, if it is damaged it may need replacing – this is a common size washer and can be purchased from most hardware/plumbing stores. 2. If the diverter valve is loose (or you can easily swivel the fitting without resistance, the fitting is not tightened enough. It may feel like you can't tighten it anymore and it just keeps spinning but if you use a gripping tool (multi grips) to grab the collar of the fitting and use your hand to hold the valve itself steady, you will be able to further tighten the valve. The valve is tight enough when you feel light to moderate resistance when trying to swivel the valve. 3. If you screw the valve on and the collar 'bottom's out' on the tap, you may need to add another washer (to bulk up the space).
The unit is not producing any water?	<ol style="list-style-type: none"> 1. Water Supply is off/disconnected. 2. Pre-Filter has a blockage 3. Insufficient Water Pressure 4. Water Quality 	<ol style="list-style-type: none"> 1. Turn on the water supply and ensure there are no obstructions to the water flow. 2. Disconnect the tube between the membrane and pre-filters and run water at full pressure to see if water comes out of the filter. – If the water does not come out (or is very weak pressure) the filter may need to be changed. 3. Reverse Osmosis required 50psi (Minimum) to operate – 70psi+ is ideal. If you have lower than 50psi pressure this unit may not be suitable for you. 4. Ensure that the water quality meets the feed water requirements outlined previously. High levels of impurity such as hardness and salt can cause the system to block or not produce water.
I am getting much more wastewater than filtered water	<ol style="list-style-type: none"> 1. Water Pressure 2. Water Quality 3. Blockage 	<ol style="list-style-type: none"> 1. Our units are designed to run at approx. 1:2 – 1:3 wastewater ratio at 70 psi. If your pressure is lower than 70 psi, the production rate may decrease and cause more drain water than filtered water. 2. If your inlet water quality is poor and contains higher salts and hardness the filter may produce less water than the specified amount. 3. If you have good pressure, and average water quality it is possible there is a small blockage somewhere in the system. Try to follow the water flow along the system, disconnecting 1 tube at a time to try and pinpoint where the water is 'stopping'
High pH Reading	<ol style="list-style-type: none"> 1. Alkaline Filter 2. GAC Filter 3. Insufficient Testing Equipment 	<ol style="list-style-type: none"> 1. Alkaline Filters are designed to increase the pH of the water. When the filter is new it will be high but will soon settle to the advertised levels after adequate flushing. 2. If you have a post GAC filter (Carbon), this will naturally increase the pH of the water. pH is the measure of Hydrogen in the water and this hydrogen will vent off the water if you leave it to stand and the pH will then drop back down to the normal level. 3. pH testing equipment can range from a cheap test pen right up to lab grade equipment. Before coming to a conclusion on pH issues, it is best to ensure the equipment used to measure the pH of the RO water is of high standards and suitable for

		reading pH levels in low EC water (i.e., The guy at the pool shop is not going to cut it). We have access to high quality testing equipment and frequently test our units and conduct research. If you feel that there is an issue with your pH, please contact us.
Strange taste to the water (New System)	<ol style="list-style-type: none"> 1. Alkaline Filter 2. Residue 3. Contamination 	<ol style="list-style-type: none"> 1. If you are using an alkaline filter system, the unit requires adequate flushing before first use. Usually, all taste is gone within a week of use. This taste is normal and in most cases is your body adjusting to the high pH water (which some people can describe as a slight metallic taste). 2. The filters are dry packed, the carbons, alkaline filters will have 'fines' on them as they are granular medias, this will go away with flushing. The membrane has a food grade preserve inside it to prevent contamination during storage, this will also flush away quickly. 3. Bacterial contamination is highly unlikely, but not impossible. If there is a strong 'foul smell' or organic taste to the water, it is possible that there is some form of contamination. Contact us straight away so we can rectify (or diagnose) the problem if there is one present.
The TDS out of the faucet is Higher than the inlet water (or the same).	<ol style="list-style-type: none"> 1. New Filter 2. Alkaline Filter 3. Expired Filters 4. Mixed Up Drain Line and Drinking Line 	<ol style="list-style-type: none"> 1. While filters are new, it is normal for the TDS to be elevated while the system is flushing. Continue flushing the system & contact support if the high TDS persists. 2. Alkaline filters will naturally increase the TDS of the water, especially when new. If you have low TDS water already, it is possible for the TDS level out of the alkaline filter to be higher than your inlet water. This is because you are adding minerals back into the water therefore increasing the TDS and alkalinity. 3. If the filters have not been changed as per the recommendations, it is likely that the increased TDS is due to the filters needing replacing. 4. This is common as sometimes the lines may be mixed up. Make sure that the tubing connected to the 'Drain Line' flow restrictor is being run to waste, do not use this water for drinking. Your drinking water line should be marked with either 'outlet', 'Drinking Water' or 'Aquarium Water'.
Flow has suddenly slowed down to a trickle	<ol style="list-style-type: none"> 1. Tank lost air pressure 2. Tank Bladder Rupture 3. Blocked filters 	<ol style="list-style-type: none"> 1. Over time, air can slowly leak out of a RO tank. Sometimes this is more noticeable at the time you change your filters. An indication that this has occurred is that the tank will be very heavy (full of water), but no water comes out the tap. The solution is to disconnect the tank (after shutting down the system). Then empty all water from the tank, or as much as possible. Add air pressure into the tank equal to 7psi. Reconnect the tank and let it fill and try again. 2. Depress the air valve on the side of the tank – if water comes out the air valve the bladder is ruptured. Or if you add air to the tank and the air comes out the inlet/outlet valve it is also ruptured. – The tank will need to be replaced. 3. It is unlikely that the filters would be totally blocked but it is possible. Check the feed water conditions and replace the filters if they are passed the recommended change times.
Water constantly running to waste	<ol style="list-style-type: none"> 1. Faulty Shut Off Valve 2. Still Filling 	<ol style="list-style-type: none"> 1. If it is not an air lock, there may be something wrong with the shut off valve. These parts are warranted for 2 years from date of purchase. Outside this time, it is recommended to replace them. 2. Ensure that you have allowed the system enough time to replenish the tank. Check with other household members to see if someone recently drew water from the unit.

	3. Low Pressure/Blockage	3. Low pressure can cause the water to continuously run to waste without producing filtered water. Ensure your feed water pressure is > 50psi. Your pre-filters may also be blocked.
TDS Monitor is showing a higher TDS than expected.	1. Rejection Rate Calculation 2. Incoming pressure below optimal	1. The rejection rate of these systems when working under optimal conditions should be 95 – 98%. So, if your TDS was 200ppm the final TDS off the membrane should be around 5 – 10. This can fluctuate due to several factors but mostly due to inlet pressure. Note that as the EC/TDS of the water reduces, so does the accuracy of most TDS/EC monitors and meters. Also, rejection rate will also be lower if your incoming TDS is already (for example <50 TDS) 2. As mentioned online and in the manual, the optimal working pressure for this system is 70psi (500 kPa). Using the available booster pump, the working pressure increases to ~600 kPa which is optimal for these membranes. At this point, you will achieve the best rejection rate. If your water pressure is lower, you can expect the TDS of the membrane water to increase due to the reduced osmotic pressure

Filter Protection

I. Water Hammer Arrester

Sioux Chief shock arresters are designed for use in hydraulic hammer arresting applications. They are built to reduce or eliminate hydraulic shock, otherwise known as water hammer. They do this by absorbing pressure surges within water or other fluids that are suddenly stopped or forced in other directions by fast closing valves. Sioux Chief shock arresters are best used at the point of shock and should be installed as close to the valve or piping where the shock originates from. Sioux Chief shock arresters are designed with the latest diaphragm technology. A high-grade diaphragm is sealed inside the vessel creating a barrier between fluid and air chambers. The air chamber acts as a cushion which compresses when system pressure suddenly increases or surges as a result of hydraulic shock.



The water hammer arrester is installed either at your washing machine or your dishwasher inlet.

This system is certified to WaterMark Standards AS/NZS 3497 Under Certificate number 022780. WaterMark certification is the level of certification required by law for a qualified plumber in Australia to install a water filter system.



General Warranty

Water Filter Systems¹ (Excluding consumables) Manufactured or Assembled² by High Performance Filtration (HPF) are covered under a 12-month Warranty Against Defects (Manufacturer's Warranty). This warrants the water filter system to be free from defects in material and workmanship for a period of 12 months from date of sale.

If applicable, HPF may cover the return freight in the form of a re-imbusement after the system has been inspected and confirmed it is a valid warranty claim.

HPF will not cover any labour charge incurred by the consumer for the replacement or repair of a product. The warranty is strictly parts only for the parts supplied by HPF. This warranty only applies to the original consumer of the product and is non-transferable. If you have purchased the system through a re-seller, please contact them to facilitate the warranty on your behalf. All replaced or exchanged parts become the property of HPF.

HPF does not cover the workmanship of the plumber who originally installed the system. Responsibility for damages that occur during installation fall with the plumber.

Qualification for Warranty

As per Australian Plumbing Codes, all filter systems must be installed by a qualified plumber. The consumer is responsible for keeping record and proof of installation in the form of an invoice and/or receipt.

Filter systems must be maintained as per HPF recommendations³ including the use of replacement filters, fittings and components supplied by HPF. Failure to maintain the filtration systems using HPF supplied/approved products may void warranty.

The warranty only applies if the product was used and/or installed in accordance with the user guide and/or installation instructions. This warranty is given in lieu of all other express or implied warranties and manufacturer shall in no circumstance be held liable for damages consequential or otherwise or delays caused or faulty manufacturing except as excluded by law.

Warranties need to be approved by HPF to ensure the product was not incorrectly used, installed or claimed. False and incorrect claims will be pursued at HPF's discretion including chargeable inspection and transit costs incurred.

HPF does not take responsibility for retaining customer records, it is the consumer's responsibility to retain all invoices or proof of purchase from the original sale and ongoing maintenance records as proof of upkeep.

The H1-302BN must be plugged into a single socket surge protector, then in to a 240V (10A) GPO.

Definitions

¹ Water Filter Systems are defined as systems designed for drinking water under our Water filter Systems, Reverse Osmosis Systems & Ultraviolet Sanitation Categories – Excluding Cartridges and Shower Filters.

² Other products not manufactured or assembled by HPF are covered under the applicable manufacturer's warranty.

³ HPF specifies recommended or required filter maintenance – see product information for further details. If a maintenance schedule is not specified, filter maintenance is required at least once per 12 month period.

* Unsuitable environmental conditions include but are not limited to; Excessive hot or cold, Weather extremes.

Warranty Exclusions

HPF Standard Warranty shall be void if the product sustains damage or failure resulting from any of the following:

- If your system(s) fails to be maintained in accordance with recommended servicing and as per the manufacturers operating instructions.
- Unauthorised or abnormal use or operation.
- Exposure to unsuitable environmental conditions*.

Warranty – Australia

This warranty is given by High Performance Filtration (Jacknel Pty Ltd ATF The J & N Family Trust). ABN 64 855 305 562

Located at 7/38 Jade Drive, Molendinar QLD 4214. Ph 07 5597 6142 & email info@hpfiltration.com.au

This warranty is provided in addition to other rights and remedies you have under law. Our products come with guarantees which cannot be excluded under the Consumer Guarantees Act.

Extended Warranty

The H1-302BN Undersink RO System is eligible for an extended 4-year warranty (commencing no later than 12 months from sale date), to provide a total warranty of 5 years. This extended warranty is subject to terms and conditions outlined below. This extended warranty covers the below parts of the system.

- Head Caps – EQ Style
- Feed Water Valve – DMfit

The following components are also eligible for an extended 12-month warranty (commencing no later than 12 months from sale date), to provide a total warranty of 2 years. This extended warranty covers the below parts of the system.

- Storage Tank
- Faucet Tap
- Booster Pump (If Applicable) – *Residential Use Only*

Extended Warranty Qualifications

Extended Warranty is valid only if the following conditions are met:

- All requirements for ‘General Warranty’ are met.
- The System was installed by a licenced plumber – proof of installation required in the form of a receipt or invoice for works.
- The system was maintained in accordance with our recommendations in Maintenance – Section II. Replacement Cartridges.
 - Cartridges must be purchased through a participating supplier/reseller of HPF products
 - Proof of purchase for replacement filters required.

Definitions

¹ Water Filter Systems are defined as systems designed for drinking water under our Water filter Systems, Reverse Osmosis Systems & Ultraviolet Sanitation Categories – Excluding Cartridges and Shower Filters.

² Other products not manufactured or assembled by HPF are covered under the applicable manufacturer’s warranty.

³ HPF specifies recommended or required filter maintenance – see product information for further details. If a maintenance schedule is not specified, filter maintenance is required at least once per 12 month period.

* Unsuitable environmental conditions include but are not limited to; Excessive hot or cold, Weather extremes.