

Semi Commercial Reverse Osmosis Water Filter System 63L/Hr – GT1-12LS

FILTER SYSTEMS AUSTRALIA

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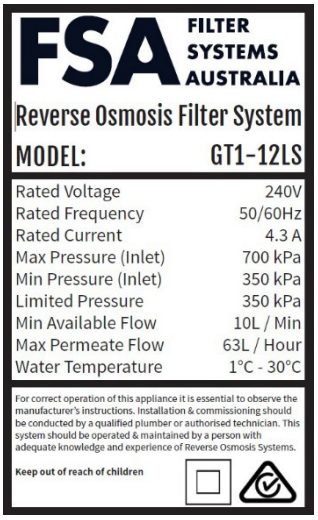
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Technical Overview

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 or POE 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.

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 *Guideline only*	**Min**	**Max**
Inlet Pressure	350 kPa	700 kPa
Temperature	0.5°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

III. Space Requirements

The LSRO Systems are not IP rated and therefore are not suitable for external installation without adequate weatherproofing or cover from the elements including but not limited to Rain/Moisture & Frost.
The Frame of the system includes mounting holes so the system can be mounded to a wall. It is recommended that the system be mounted if possible, rather than free-standing as this will help support the weight of the system when full of water. If necessary, the system is able to also free stand.

System Dimensions

Depth: 26cm
Width: 44 cm
Height: 85cm

If the system is to be enclosed in a cover, allow adequate ventilation around the pumps & power supplies to prevent overheating.

IV. Before You Begin Installation

These RO units come pre-assembled on the bracket will all connections in place. These units are wet tested for leaking before they are sent to ensure there are no leaks due to assembly. Due to transit, fittings and other components may become loosened or damaged. **Ensure the system is inspected for damages prior to employing a plumber for installation.**

V. 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.

VI. Example Applications

The LSRO commercial systems are fairly versatile and are suitable for a range of different uses. There are 3 main applications for these systems; **Manufacturing Water, Bore Water TDS Reduction & Medical Sterilisation**

Manufacturing Water generally required town water to be filtered through the RO membranes to reduce or remove the dissolved solids from the water. These systems are favoured to produce this water 'in house' rather than purchasing commercial quantities of de-mineralised or distilled water which can be costly. Most mains water applications are straight forward however some water supplies contain higher levels of hardness which may require treating before the system.
Bore Water filtration is used when the water meets specific conditions where an RO unit will be suitable to remove elevated salt levels in the water (generally TDS <2,000 mg/L*). Where salt levels exceed the ADWG and need to be removed to supply potable water to a household.
Medical Sterilisation; it is now a requirement for dental & medical industries to utilise reverse osmosis + de-ionised + UV sanitised water for use in equipment sterilisation. These systems can feed 0 TDS water into Autoclave systems for the compliant sterilisation of medical equipment. (UV system not included).

VII. Installation with other Systems

It is common for these systems to be supplied with other additional filtration systems for different applications. The most common of these would be a Water Softener. Below are some example scenarios. NOTE: These are just guidelines and may be different depending on the requirements of the job. Check with the client or supplier as to which type of installation order is required for not standard installations.

UV Systems: There are 2 ways to utilise UV with an RO system
1. UV can be used to sanitise the incoming feed water into an RO system. This is generally required on scenarios where there are high or potential bacterial loading levels in the feed water. Bacteria can severely affect an RO system performance and may cause Bio-Fouling. UV is used to eliminate or significantly reduce bacteria.

2. Post storage sanitation is required if your RO water is filtering into a storage tank. This is the same principle as treating rain water from a tank into your house. While RO water is generally free from contamination, it is possible for the stored water to become contaminated especially if the tank is not sealed or mixed with rain water.

Water Softener: Water softening is generally used when the feed water hardness, iron or manganese exceeds the feed water requirements for the RO system (outlined in Technical Overview Sec. II.). A Reverse Osmosis System is much more efficient at removing salts such as sodium chloride, rather than hardness (calcium carbonate). Hardness produces scale and this scale can block a membrane or increase the rate at which the membranes need to be chemically treated with an acid for de-scaling. It is better to

have higher incoming salt rather than higher hardness. For this reason, a water softener is installed behind an RO System.

Due to the flow rates of a water softener, it will generally need to be installed in the following order: Feed Supply → Softener → Holding Tank → Pump →RO System → Use or further filtration.

Aeration/Filtration: Given the correct water chemistry, levels or iron/manganese may be the only issue in the water. This method is designed to remove these metals from the water without affecting the other minerals in the water and without increasing the salt levels. The aeration/filtration will be set up in the same configuration as the water softener.

Calcite Filter: Reverse Osmosis will strip the minerals and salts from the water. The trade off is that the water will then usually become 'aggressive' much like rain water. The pH will be low and the LSI of the water will be low.

To use this water safely in a domestic setting, the pH and LSI will need to be balanced by using a Calcite Filter. This will dissolve small amounts of calcium into the water to balance the pH and LSI. The most common use of a calcite filter is in the following orientation: RO System → Tank → Calcite Filter → Standard Filtration (Big Blue) → UV → House

De-Ionising (Demineralising): DI units are common as they are now required for medical sterilisation. DI systems or housings are installed in the following configuration; RO System → Tank (If Applicable) → DI Filter → Direct Point of use.

Installation Introduction

I. Site Preparation

When a suitable installation location is identified, you will need to determine if the system will be mounted to a wall or free-standing. The System should ideally have both the water supply (feed water) & Storage/Point of use within a 5m radius of the system to reduce negative effects on the pressure/flow and performance of the system. It is also recommended that the process water (filtered water) does not have to travel more than 2m elevation above the system. This will ensure that minimal backpressure is applied to the pumps. Where possible, have the water running to a point lower than or at the level of the system for best results.

Ensure that adequate space is allowed for to access all parts of the system and if mounted to a wall, the fixings should be removable which can help maintenance.

II. Installation – Mounting

When mounting the system, you will need to position the system to the desired location and mark out the mounting holes. NOTE: it can help to unscrew and remove the blue cannisters on the front of the unit to reduce weight and gain better access to the mounting points to mark them.

III. Installation – Free-Standing

The frame of the unit is suitable to support the system if it is not mounted to a wall. You will need a firm stable base such as concrete for the system to sit on. Where possible, it is best to fix the system to the ground or adjacent structure that is already secured. This is to prevent the system tipping over and also to prevent the system putting pressure on any of the plumbing connections.

IV. Installing Connections – Quick Connect

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 to the right), then pull the tubing out. The LSRO units are fitted with Blue locking clips. These will need to be removed first so you can release the fitting. You will also need to remove them from the fitting if you are trying to re-install the tubing.





V. Filter Protection

These systems are supplied with an inline Pressure Limiting Valve fitted to the inlet port of the system. This valve limits the pressure incoming to 50 psi (350 kPa). If your incoming pressure is below 350 kPa, you can remove the PLV as it may further reduce your incoming pressure.

The system does not come standard with inlet fittings – this should be supplied by the installer unless the purchaser of the system included fittings in the original purchase.

It is recommended that an anti-water hammer devise is installed on the house to dampen water hammer commonly caused by washing machines. It is best to install these devices at the point of hammer such as on the cold-water line at the washing machine or dishwasher for residential applications, or for commercial applications install near any electric solenoid valves.

VI. Drain/Waste

Reverse Osmosis Systems produce waste water due to the RO process. This water will need to be discarded in accordance with local government regulations. For applications where the feed water quality is fair (mains water) the waste water is able to be sent to sewage/septic. NOTE: for septic, consult with the manufacturer to ensure the increase water discharge is within specification for your septic system. In some cases where the feed water quality is good, the discharge water may be suitable for utility use and watering not food plants. It is best to check with the supplier before using the discharge water. If the feed water is high in salt, the waste water will be concentrated with higher levels of salt and may not be suitable for discharge into sewage or septic.

If the waste water is not suitable for conventional septic or sewage, you will need to dispose of the water in a rubble pit or evaporation pit in compliance with local regulations. The waste water should not be allowed to flow into the environment unless permitted by local authority.

VII. Cartridge Installation

(a) Pre-Filters

Cartridges should be installed in order of: Pleated Before Spun, Spun Before Carbon, Highest Micron Before Lowest Micron.
As an example, a common filter set would be 5uM Polyspun, 20uM Low Pressure Carbon, 0.5uM Chloramine Reduction Carbon. You would install them in that order as per the above guideline. Usually We will invoice the filter in order of installation (reading down the invoice).

Cartridges will need to have the outer plastic shrink wrapping removed before being installed. Maintain minimal contact with the surface of the carbon filter, handle by the end caps only to avoid contamination as carbon will absorb smells and oils from the skin.

Gently lower the cartridge into the blue sump and locate the filter so the stem in the bottom of the sump inserts into the centre hole of the cartridge. Do not drop the filter in as this centre stem may break the plastic caps of the filters. Once the filter is located, screw the sump into the cap (in a vertical position). It can help to wobble the sump to help the filter locate into the guide lugs in the top of the cap.

The caps should screw up rather smoothly with little resistance so it is usually suitable to firmly hand tighten the housings. If you encounter resistance before the housing is more than ¾ tightened you may not have the cartridge aligned with the guide lugs; remove the sump and line it up correctly before tightening. An opening spanner if provided with these systems and is only required for installation if hand tightening is not easily achieved or if slight leaking occurs. It is important not to overtighten the housings as this can lead to excessive stress on the cap thread which may cause damage to the housing long term. The spanner can be used to help unscrew the housing when filter changes are required as the housings are usually more difficult to unscrew over time being installed.

(b) Membranes

In some cases, the membranes may already be installed in the cannisters. If you are supplied with a bag of 4 membrane filters, they will need to be installed into the system.

1. Disconnect the tubing from the screw cap end of the membrane housings, check the o-ring to ensure it is in good condition, if the o-ring gets stuck in the cap – remove it and install it on the housing.

2. Unwrap the Reverse Osmosis Membrane and install it into the membrane housing, ensure that you only handle the membrane by the end stems. The membrane is inserted into the housing o-rings first so the stem without the o-rings is visible. Replace the membrane cap firmly but do not overtighten.

(c) Post Filters

The system is supplied standard with an inline 2.5" GAC filter. These are also available as a DI cartridge or a Demineralising cartridge – the installation principle is the same.

These filters are generally pre-installed. When you need to replace them, simply disconnect the tubing from each end and remove the fittings from the filter. Replace the fittings into the new cartridge then re-install.

If the system is purchased with a DI filter, this GAC filter is removed and there should be a open end of tubing at the top of the system which is the outlet.

(d) De-Ionising Post Filters

For DI Cannister filters – temporarily run a small length of tubing form the systems outlet to flush the water from the system before installing the DI system. This ensures that and TDS contamination in the system does not expire any of the DI filter media. Flush the system until the TDS shows a > 90 % Reduction in TDS compared to the raw inlet water. (minimum 30 minutes). After the flushing is finished, plug the ¼" tubing into the DI filter and run a length of tube to your tank/container or float valve.

Connecting the System

I. Tubing

Measure a length of tubing (Blue 3/8") from the feed water connection to the system. Cut the tubing using poly cutters or a sharp box cutter. Ensure that it is a clean straight cut with no rough edges.

Measure a length of ¼" tubing from the drain valve (located behind the pumps) which is marked as 'to drain' or 'Flow 2000' to a suitable drainage point.

Measure a length of ¼" tubing from the outlet point of the system to your intended usage point or storage.

II. Power

The system is supplied with a 3 pin AU plug. Install this into a GPO (10A min). It is advised to also install a surge protector to protect the electrical components of the system in the event of a power surge or blackout. NOTE: If there is any damage to the cord DO NOT install – contact the manufacturer immediately

Start Up & Operation

I. Commissioning

NOTE: New filtration systems will require a pre-flush before being used. The GT1-12LS system will need to run for at least 15 – 20 minutes before first use to clear and residue or fines from the filters.

- Use a TDS meter to monitor the water to determine when the system is suitable for the intended application.
- When the system is connected correctly, turn on the incoming water supply and allow the first filter cartridge to fill with water. Once this has stabilised, turn on the power to the system.
- Turning the power on will actuate the inlet solenoid valve and the water will then begin to pass through the remaining 2 pre-filters then to the membranes.
    - The pumps will turn on at this point – the working pressure gauge will remain at 0 until the water reaches the membranes.
- Once the water reaches the membranes, the drain line should begin to sputter and produce water – it is normal for this to be cloudy and discoloured on first use.
- At this point, the water will then need to slowly pass through the membranes and post filter so the system will need to run for several minutes until water will begin to flow.

Your water is now suitable for use.

II. General Operation

The rating of this Reverse Osmosis system is 400GPD as per the membrane specifications meaning this system is capable of approx. 1L/Min of water production, this will vary depending on water quality and a number of factors. The systems are designed to be run in a closed loop configuration where the system runs off a float switch or timer, this type of configuration allows for system downtime and helps extend the lifespan of the pump as the system is intermittently producing water

When the system is installed in an open loop configuration and the pumps haven't been allowed any downtime you may expect to see a decrease in the pumps lifespan. If you intend to use the system this way please contact us as we may have a better solution for your specific circumstance

Production scenario for closed loop configuration – The system is run for up to 8hrs a day with a 30 min cool down period, in this configuration the system will produce approx. 500L +/- per day. This is the recommended runtime scenario specified by the manufacturer for extended pump lifespan

Production scenario for open loop configuration – The system is run for continuously without a cool down period, in this configuration the system will produce approx. 1500L +/- per day. This is the maximum capacity of what this system can produce however this may also decrease pump lifespan*

*Note: the pumps come with a 90-day replacement guarantee/12-month pro-rata warranty per pump from date of invoice. If the pump fails within the first 90 days of operation, we will replace it, if it fails from 90-365 days, we will cover it on a pro-rata basis. The pumps as well as the filters are classed as a consumable item

III. Automation

The system is fitted with high and low-pressure switches. This will allow the system to know when to shut off due to the tank being full, or the feed water has been shut off.

When power and water is connected to the system and the outlet is open, the system will automatically produce water. When the outlet shuts off, the high-pressure switch will trip after a period of time (similar to a household pump) and then the system will shut down. When the outlet is opened and the pressure falls below the limit, the system will start up again.

Similarly, when the feed water is cut off to the system, the low-pressure switch will trip and the system will shut off after a few seconds.

If installing this system to a float switch in a tank, you will need to disconnect the high-pressure switch and connect the float valve terminals in its place. This will then run the shut off based on the float rather than the pressure.

TIP: If the system needs to be shut down and serviced, a handy tip is to shut off the inlet water supply and allow the pressure to bleed out (few seconds) before shutting off the power. This will make it much easier to disconnect any fittings.

Maintenance

I. Replacement Parts

A list of replacement parts is listed below with their corresponding recommended lifespan for replacement.

II. Replacement Cartridges

On Municipal water supplied, the pre-filters should be changed every 45,000L (720 Hours constant Run Time) OR 6 Months, whichever occurs first.

Post Carbon Filter:

This filter should be changed every 5,000L or 6 Months, whichever occurs first.

DI Resin:

Due to the nature of resins and the variance of water quality, this media will also need to be monitored with a TDS pen or meter to determine when the filter media has expired. DI resin will extract residual ions from

the water reducing the RO water back to a 0 TDS reading. The filter media will require changing once the TDS exceeds your required limit. To change the DI media:

- **Inline DI Filter:** Disconnect the tubing from the inline filter and remove the filter from its mounting clamps. Unscrew the end cap in an upright position and remove the sediment pad and o- ring to avoid getting debris on the o-ring seal. Discard the filter media and rinse the cartridge with clean water, removing and remaining DI resin. Refill the housing with resin, replace the pad and o-ring and replace the head cap.
- **DI Cannister Filter:** Undo the housing cap and remove the DI cartridge. Unscrew the filter from the bottom and discard the DI media. Rinse the housing and sediment pad with clean water removing any of the remaining expired DI. Fill the cannister with 1Kg of DI media (Try not to compress it, gently tap the cannister to allow the media to settle into position). Replace the sediment pas and screw the cap back on.

III. Parts List

Pre-filters:

GT2-47-20KP	20 Micron Washable Sediment Filter	3 - 6 Months
GT2-47-5K	5 Micron Polyspun Sediment Filter	6 Months
GT4-10CTO	5 Micron CTO Coconut Carbon Block	6 - 12 Months

RO Membranes:

GT13-37-ALP (4 pc Required)	Asprinn Reverse Osmosis Membrane 100GPD	TDS Checking Required (1 – 3 Years)

Post Filters:

GT6-7C	5 Micron inline GAC 2.5”	5,000L / 6 Months
GT6-35C	Inline GAC + Alkalising	5,000L / 6 Months
GT6-22	Inline DI Filter 2.5”	Check TDS / 3 Months
GT5-12S-350	350g refill pack suit inline DI Filter 2.5”	Check TDS / 3 Months
GT4-14DI	10” x 4.5” DI Cannister Filter Cartridge	Check TDS / 6 – 12 Months
GT4-16DI	20” x 4.5” DI Cannister Filter Cartridge	Check TDS / 6 – 12 Months
GT5-12S (1Kg per refill)	Mixed Bed DI Resin	Check TDS / 6 – 12 Months

Pumps/Solenoids/Switches:

GT13-38LS	8200L Reverse Osmosis Booster Pump 200GPD	2,000Hr (12 Months Pro-rata)
GT13-40	Low Pressure Switch	
GT13-41	High Pressure Switch	
GT13-39	Brass Solenoid Valve 3/8” DC24v	

Housings:

GT8-19G-Sump	20” x 2.5” Blue Filter Housing Sump – No Cap
GT8-31	1812 Reverse Osmosis Membrane Housing
GT8-11G	10” x 4.5” DI Cannister Housing (Big Blue)

Troubleshooting

Problem	Possible Cause(s)	Solution
Leaking between fitting and tubing	1. Unseated tubing	1. 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 burs. Push the tubing back in and try again. If this does not work please contact customer support.
Unit is not producing any water	1. Water supply is off or disconnected.	1. Turn it back on and ensure there are no obstructions in the fittings/tubing.
	2. Filter Blockage.	2. Individually remove each filter 1 at a time to determine at which point the water is unable to pass. Check to ensure that the filters are installed correctly in a vertical position and that they are unwrapped.
	3. Insufficient incoming water pressure	3. These systems require a minimum feed pressure of 350 kPa to function correctly. <350 kPa may work however the pump may have issues with priming and may not be able to reach its full working pressure.
	4. Water Quality	4. Ensure that your feed water does not exceed the specifications of the RO system. If your water contains higher levels of impurities, your membranes could be scaled and may need cleaning or replacing.
	5. Outlet tubing/float is closed or blocked	5. Check for obstructions of blockages. Check that the switch on the float valve actuates correctly.
	6. Water not making it passed the first filter	6. the pressure is either insufficient, or the inlet solenoid valve may be damaged or faulty not allowing the water to pass through.
High pH reading	1. GAC Filter	1. If you have a GAC or Block 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.
	2. Insufficient Testing Equipment	2. 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 filtered water is of high standards and suitable for reading pH levels in lower 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)	1. Residue	1. The filters are dry packed, the carbons, alkaline filters will have ‘fines’ on them.
	2. pH Alteration	2. As previously stated, Activated Coconut carbon will react with the water when new and will increase the pH. People who are not accustomed to higher pH water may notice a strange taste/sensation due to the large variance of pH. Flushing the system will help stabilise the pH from the system and also allowing the water to stand before drinking can also help allowing the water to ‘vent’ the pH
	3. Contamination	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 Is Higher than the inlet water (or the same).	1. New Filter 2. No Effect on Dissolved salts	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 longer than one week. 2. Standard filtration has little to no affect at reducing the salts in the water. In some cased the TDS can reduce however it is not uncommon for the TDS to stay the same or slightly rise (as the system in new) due to the fines from the filter.
Flow has suddenly slowed down to a trickle	1. Blocked filters	1. Check the feed water conditions & cartridges and replace the filters if they are passed the recommended change times.
Pumps Stopped working	1. Damaged or worn out pump 2. Power Supplies Faulty	1. The pump may require replacing if it has been overworked outside the manufacturer's guidelines. 2. Power surges may cause the power supply to short out. Other things include water leaking or overheating. An electrician can test the components to see if power is making it to the pumps.

Rev. 22/06/2020

LSRO-200G | LSRO-400G | LSRO-800GF5
Reverse Osmosis Systems with Pump

Warranty

Water Filter Systems[1] (Excluding consumables) Manufactured or Assembled[2] by Filter Systems Australia (FSA) 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, FSA may cover the return freight in the form of a re-imbursement after the system has been inspected and confirmed it is a valid warranty claim.

FSA 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 FSA. 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 FSA.

FSA 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 FSA recommendations[3] including the use of replacement filters, fittings and components supplied by FSA. Failure to maintain the filtration systems using FSA 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 FSA to ensure the product was not incorrectly used, installed or claimed. False and incorrect claims will be pursued at FSA's discretion including chargeable inspection and transit costs incurred.

FSA 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.

Warranty Exclusions

Due to the many working parts of RO Water Filters, there are some components that fall under 'regular wear and tear' which are not covered under an extended warranty.
Items including but not limited to; Valves, Taps, Seals, Adaptors, Tanks and Fittings are subject to a 2-year warranty from date of invoice.
Pressure pumps are rated to a total run time of 2,000 Hours (Based on a maximum run time of 8 hours per

day – 5 days per week). Exceeding the maximum run time of the pumps will reduce the lifespan of the pumps. Allow at least 1 hour during the run time for the pumps to cool

Please refer to the product listing to see the recommended replacement times for valves and other components.

FSA 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*.

FSA does not cover the work of the plumber who originally installed the system.

Extended Warranty

The LSRO RO systems are 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.

- Housings – GT8-0S, GT8-19G

Extended Warranty Qualification

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

- The System was installed by a licenced plumber – proof of installation required in the form of a receipt or invoice for works.
    - If the system is installed on an open circuit a plumber may not be required – in this case the system must be installed in accordance with the user manual and determined to be correctly installed by FSA.
- The system was maintained in accordance with our recommendations
    - Cartridges must be purchased through FSA or participating supplier/reseller of FSA products
    - Proof of purchase for replacement filters required.

Warranty – Australia

This warranty is given by Filter Systems Australia (Jacknel Pty Ltd ATF The J & N Family Trust). ABN 64 855 305 562
Located at 1/38 Jade Drive, Molendinar QLD 4214. Ph 07 5597 4585 & email info@filtersystemsaustralia.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.

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 FSA are covered under the applicable manufacturer's warranty.
[3] FSA 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.