

REVERSE OSMOSIS INSTALLATION BOOKLET

Models

959/A

959/P



Lic #WM-022649

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Important Information

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

This system must be installed in line with AS/NZS3500.1 regulations and must have a dual check and pressure limiting valve installed. No warranty will apply to a system installed without this valve.

Plumber to connect reject line to the sewer in accordance with AS/NZS3500.2 regulations.

Feed water temperature must be between 4 - 38°C. This system is not designed for hot water use.

Do not freeze system or components.

Do not use with water that is microbiologically unsafe or with water of unknown quality without adequate disinfection before or after system.

Teflon tape ONLY to be used – Using sealants will void warranty.

This system is not UV resistant. Install only out of direct sunlight.

This system must be mounted in a vertical position and must be positioned to allow access for service and filter changes. At the same time, assembly should be relatively near faucet to maximise flow rate.

Before You Begin

Ensure that system and all components are un-damaged and complete. Please contact your distributor immediately if you are unsure.

Ensure you have adequate space under your sink for the system before you begin installation.

Ensure you have the following equipment to install the unit:

- Variable speed drill
- Drill bits: 11 mm for faucet (1/8" for pilot hole)
- Shifting spanner
- Suitable mounting screws, plugs and screwdriver
- Teflon Tape
- Spare length of 1/4" Tube – approx. 3m

General Information

Quick Connect Fittings



To Connect:

Ensure tube is cut square.
Push tube into the fitting
up to tube-stop.



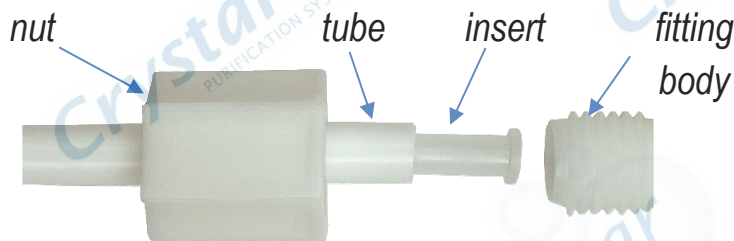
Pull on tube to make sure
it is secure.



To Disconnect:

Push collet square
against fitting. With collet
held in this position, tube
can be removed.

Jaco Style Fittings



- Ensure tube is cut square. Insert tubing through back of nut.
- Push tube insert all the way into tube.
- Push tubing all the way to tube-stop in fitting body.
- While holding tubing firmly against tube-stop, hand tighten nut and then use a spanner to tighten securely.

Ball Valve

Off
Position



On
Position



Components Checklist



RO System



Tank



303/F Faucet



PLV (A)

OR



PLV (P)



1/2" Compression Tee



1/2" F Tee



Membrane



1/2" Nipple



1/2" M x 1/2" F Ball Valve



Opening Handle



1/4" Tube x 1/2" NPT
Straight Adaptor



Inserts



Tank Valve



Tubing

Component Identification



- 1 Shut Off Valve
- 2 Flow Restrictor
- 3 Check Valve
- 4 Filtered Water Outlet
- 5 Tee to Tank
- 6 Membrane Housing

- 7 Main Bracket
- 8 Sediment Filter
- 9 GAC Filter
- 10 Carbon Filter
- 11 Post filter
- 12 Storage Tank

Faucet Installation

Before installing, ensure faucet will be accessible from below once hole is drilled.

Faucet can be placed either on edge of sink or on counter top if there is not enough room on sink.

**** If your counter top is marble or stone or you are unsure if you will damage it, we highly recommend getting a professional to drill it for you ****

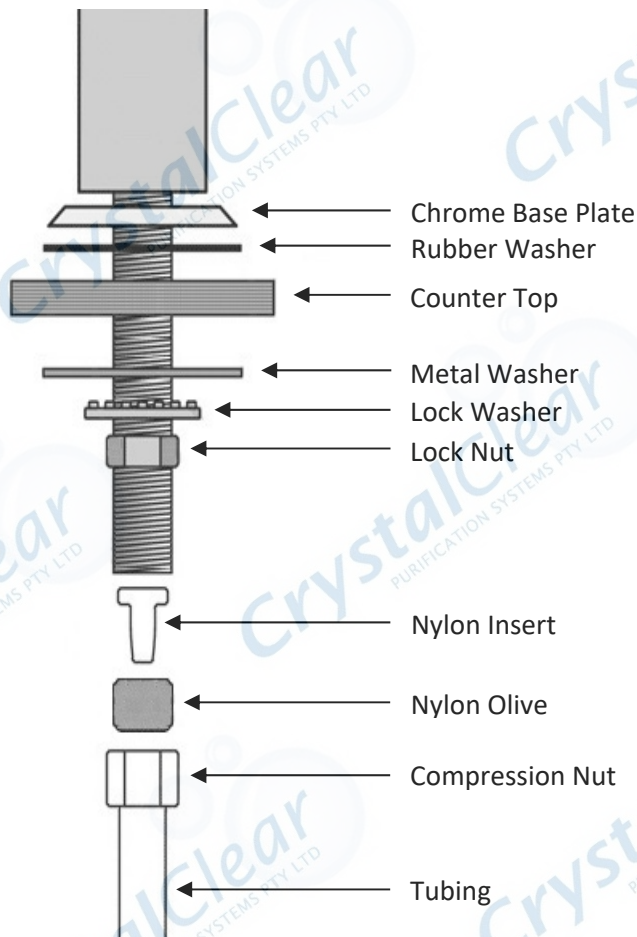
Step 1

Using a 1/8" drill bit, drill a pilot hole.

Then using an 11mm drill bit, drill a hole through the base metal. Operate drill slowly and carefully, especially when drill is about to penetrate metal. If necessary use a drop or two of oil in hole.

Step 2

Mount the faucet as shown below.



- Place chrome base plate and washer onto thread.
- Place faucet into hole drilled into sink or counter top.
- Place metal washer and lock washer onto thread, then screw on lock nut and tighten.
- Place nylon olive and compression nut onto tubing. Insert nylon insert into tubing and screw nut onto thread.

System Installation

** To be connected to COLD water supply ONLY! **

*** PLV must be installed before the unit ***

Locate and turn off mains cold water supply. Open kitchen tap to release pressure.

For Copper Pipe Connection

*** Any connection put into mains supply must be done by a LICENSED plumber ***



Apply Teflon Tape to (A) ½" M x ½" F Ball Valve and screw into (B) ½" Compression Tee.

Apply Teflon Tape to (C) ¼" Tube x ½" NPT Straight Adaptor and screw into (D) ½" M x ½" F Ball Valve.

Cut end of tubing with either a tube cutter or a sharp Stanley knife making sure cut is straight and tubing is not crushed or deformed. Insert tubing into (E) ¼" Tube x ½" NPT Straight Adaptor and other end of tubing into (F) PLV.

For Braided Hose Connection



Apply Teflon Tape to (A) 1/2" Nipple and screw into (B) 1/2" F Tee.

Apply Teflon Tape to (C) 1/2" M x 1/2" F Ball Valve and screw into (D) 1/2" F Tee.

Apply Teflon Tape to (E) 1/4" Tube x 1/2" NPT Straight Adaptor and screw into (F) 1/2" M x 1/2" F Ball Valve.

Cut end of tubing with either a tube cutter or a sharp Stanley knife making sure cut is straight and tubing is not crushed or deformed. Insert tubing into (G) 1/4" Tube x 1/2" NPT Straight Adaptor and other end of tubing into (H) PLV.

Positioning the System

MAIN SYSTEM

*The main system is stable enough to stand on its own in the sink cabinet, however if you prefer to mount the system (see below**) make sure it is easily removable for filter changes.*

**** Mounting the System ****

Mark screw locations at the desired installation point. Use the two holes on the back of the mounting bracket as a guide.

Drill appropriate size holes for wall plugs (if required) or screws.

Screw in screws, leaving the screw head out a little for bracket to sit on.

Mount system onto the screws.

TANK

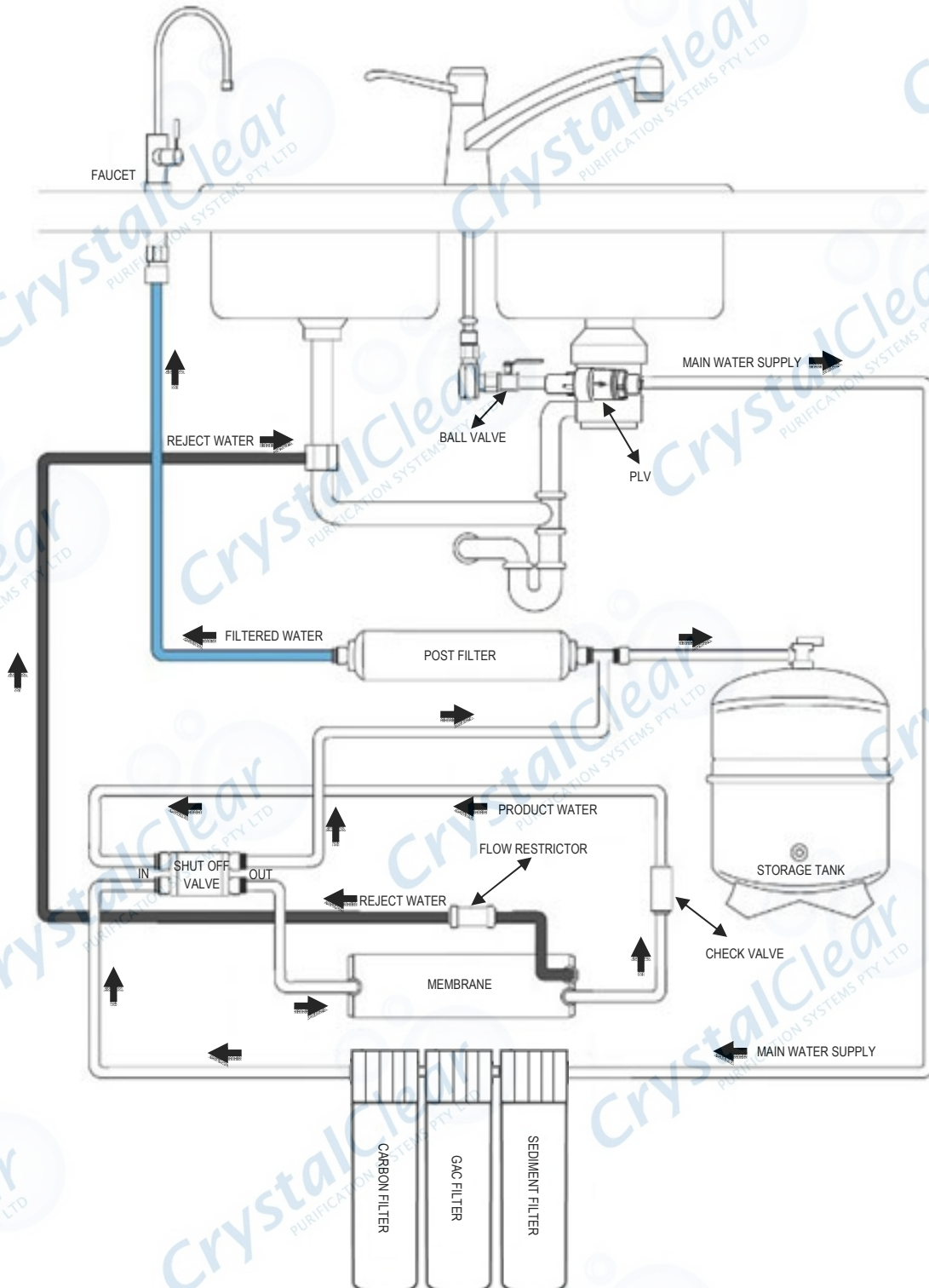
Storage tank works best standing upright but can be placed on its side if space is limited. It will work fine in this position.

Tank can also be located up to 20 feet (6m) away from the main system without much pressure loss if it does not fit under sink.

Connecting the System

*** Any connection put into mains supply must be done by a LICENSED plumber ***

Connect the system as shown below



**** Plumber to connect reject line to the sewer in accordance with AS/NZS3500.2 regulations ****

System Start Up Procedure

Make sure inlet ball valve is turned 'off' and faucet is 'open' before turning main water supply on.

Remove tubing from left (second stage) housing.

Connect spare tubing length and feed to sink or a bucket.

Turn inlet ball valve to 'on' position and allow water to flush pre-filters for 10-20 minutes or until water runs clear.

Turn inlet ball valve to 'off' position.

Reconnect tubing to housing.

Turn inlet ball valve to the 'on' position and allow system to fill and pressurise. **CHECK FOR LEAKS!**

Open tank valve and allow tank to fill. **CHECK FOR LEAKS!**

Before use, allow tank to fill. This will roughly take 2-3 hours depending on your water supply. RO will automatically shut off once tank is full.

*** DO NOT USE FIRST TANK OF WATER ***

Open faucet and drain first tank of water. This will take about 5 mins. Close faucet and allow another 2-3 hours for tank to refill. Second tank of water will be ready for use.

**** NOTE – Due to the GAC (Granular Activated Carbon) post filter, water may come out slightly dark for first tank full ****

Allow system to run and do a final **CHECK FOR LEAKS!**

System is now ready for use.

Filter Change Procedure

* System services and filter changes should be done by a licensed plumber *

** Only use cartridges that are suitable for this system **

Turn inlet ball valve and tank valve to the 'off' position and open faucet to release the pressure.

Sediment, GAC & Carbon Filter

(# 8, # 9 & # 10 Component Identification)

Slip opening handle over filter and unscrew it. (System may need to be laid down to get better leverage)

Discard used filters.

Screw in new filters (don't over tighten) – Sediment filter on water inlet side and carbon block on outlet side.

Remove tubing from left (second stage) housing.

Connect spare tubing length and feed to sink or a bucket.

Turn inlet ball valve to 'on' position and allow water to flush pre-filters for 10-20 minutes or until water runs clear.

Turn inlet ball valve to 'off' position.

Reconnect tubing to housing.

Turn inlet ball valve to the 'on' position and allow system to fill and pressurise. **CHECK FOR LEAKS!**



Membrane

(# 6 Component Identification)

Remove tubing from membrane housing cap (A).

Unscrew membrane housing cap. Remove and discard used membrane.

Insert new membrane and carefully push into the housing. There will be a little bit of resistance (NB – lubricate the membrane o-rings to help with removal in the future).

**** NOTE – Double o-ring end of membrane must go into housing first. If inserted in wrong direction, water will bypass the membrane****

Screw membrane housing cap back on and reconnect the tubing.

Turn system on and **CHECK FOR LEAKS!**

Post Filter

(# 11 Component Identification)

Unscrew fittings (B) & (C), unclip from bracket and discard old filter.

Replace Teflon tape on fittings and screw into new filter making sure flow directional arrow points towards faucet output and clip back into bracket.

Turn system on and **CHECK FOR LEAKS!**

Maintenance Schedule

During a service, PLV should be tested, o-rings should be lubricated with silicone grease, tank pressure should be checked and system should be checked for general wear and tear.

We recommend turning system off at inlet ball valve if it is to be unused for more than 2 days.

If unused for more than 2 days, discard water in tank and flush another full tank of water to drain before use.

SEDIMENT, GAC & CARBON FILTERS	Replace every 12 months
POST FILTER	Replace every 12 months
MEMBRANE	Replace every 4-6 years or when TDS reading is at an unacceptable level – usually about 70% rejection
PLV	2 year warranty Replace every 5 years
FAUCET	Replace every 5-10 years
FITTINGS & TUBING	Replace every 5 years

System Limitations

	MAX	MIN
Pressure	100 psi	30 psi
Flow Rate	4 lpm	1.5 lpm
Temperature	38°C	4°C

Troubleshooting

NO WATER FROM FAUCET

- No water supply.
 - Check water supply is turned on.
- Tank valve closed.
 - Check tank valve is open.
- Lines may be kinked.
 - Check lines and make sure straight and unhindered.
- Incorrect installation
 - Check and verify all line connections
- Low tank pressure.
 - Check tank pressure

SLOW FLOW FROM FAUCET

- Low water pressure.
 - Check inlet water pressure and increase or add pump to system.
- Water inlet is blocked or not fully open.
 - Check feed water valve is fully open
 - Check PL/DCV is not blocked
- Tank not filled
 - Let tank fill. This can sometimes take up to 2-3 hours
- Pre-Filters clogged.
 - Check flow directly after pre-filters. If blocked, replace. These should be replaced regularly. In high volume or bad water quality applications these may need to be replaced more regularly.

TANK TAKING LONG TIME TO FILL

- Low water pressure
 - Check inlet water pressure and increase or add pump to system

SLOW SYSTEM SHUT OFF

- Low water pressure
 - Check inlet water pressure and increase or add pump to system.
- Water inlet is blocked or not fully open.
 - Check feed water valve is fully open
 - Check PL/DCV is not blocked
- Pre-Filters clogged.
 - Check flow directly after pre-filters. If blocked, replace. These should be replaced regularly. In high volume or bad water quality applications these may need to be replaced more regularly.

SYSTEM DOES NOT SHUT OFF

- Input pressure too low.
 - Check input pressure. If below 30 psi a booster pump is required.
- Defective shut off valve (System should automatically shut off once tank is full)
 - Test shut off valve (D) and check valve (E) functions using the tests below.

TEST # 1 – Does the system shut off?

Draw 2-3 glasses from the faucet. System should start refilling tank when you do this.

Turn the tank valve off to mimic a full tank.

After 3-5 mins, check to see if waste water stops running by either listening or removing the drain line to have a look.

If the waste water stops running the system is shutting off properly and the shut off valve and check valve are fine – Stop testing.

If the waste water continues to run proceed to test # 2

TEST # 2 – Check valve and shut off valve check.

Make sure there is still some water in the tank.

Remove drain line so you can check waste flow drainage.

Turn off water supply and tank valve.

Check waste line to see if there is any water coming out of it.

Water coming out of the waste line is coming from the tank and means the check valve is not working allowing tank water to flow back into the drain line – **REPLACE CHECK VALVE.**

No water coming out of the waste line means check valve is ok but the shut off valve is not working and the system is not shutting off – **REPLACE SHUT OFF VALVE.**

WATER STILL TASTES LIKE TAP WATER

- Membrane missing or installed incorrectly
 - Check membrane is installed
 - Flush 1-2 tanks of water before use.
 - Check membrane is installed correctly.
 - See membrane section of filter change procedures for correct installation.

AIR BUBBLES (CLOUDY WATER) IN GLASS WHEN FILLING

- This is normal with new systems or after a filter change and can sometimes take up to 3 weeks to dissipate.
 - To check if air bubbles, fill glass and let sit. The air bubbles will rise to the top leaving a clear glass of water.
 - Drain 1-2 tanks of water to help with air in the system.

HOUSINGS LEAKING

- Check fittings and filters are screwed in properly.

Warranty

CRYSTAL CLEAR PURIFICATION SYSTEMS TERMS AND CONDITIONS

TERMS AND CONDITIONS

Any contract of sale, order, or quotation made or accepted by or on behalf of Crystal Clear Purification Systems Pty Ltd ("Crystal Clear") is subject to these terms and conditions of sale.

WARRANTY

Crystal Clear warrants each new product to be free from defects in material and workmanship for a period of 1 year from the date of retail sale established by the date of the original invoice issued by Crystal Clear.

The Product must be forwarded at the Buyer's own risk and expense to Crystal Clear, together with proof of purchase. Any damage caused during or as a result of transit will not be the responsibility of Crystal Clear.

Crystal Clear's exclusive obligation under this Warranty is, at Crystal Clear's own option, to either repair or replace the Product, once Crystal Clear has deemed that the Product is defective.

Crystal Clear may, at its own discretion, refund to the Buyer the purchase price paid for the defective goods.

Crystal Clear reserves the right in instalment sales to grant credit for the value of any Product found to be defective under this Warranty.

Crystal Clear will not cover any labour charge incurred by the Buyer for the replacement or repair of any Product.

The Buyer is responsible for freight and local labour charges for Products the subject of this Warranty.

This Warranty applies only to the original retail purchaser of the Product.

This Warranty does not cover any Product that is relocated from the site of its original installation.

All replaced or exchanged parts taken out under this warranty become the property of Crystal Clear.

LIMITED WARRANTY

Crystal Clear's liability for any breach of this Warranty shall be limited solely to replacement or repair at the sole option of Crystal Clear, of any part or parts found to be defective during the Warranty Period.

In no event will liability extend beyond the purchase price of the product.

This Warranty is subject to the Product being properly installed and maintained and being used for its intended purpose.

The Warranty will be void if the goods have found to be tampered with.

This Warranty does not cover the normal wear and tear of the Product, or damage caused by misuse, abuse or vandalism.

This Warranty does not extend to a Product that has been modified in any way unless with Crystal Clear's express consent.

The Warranty does not cover any malfunction or failure resulting from neglect or use of unauthorised parts and accessories, improper water pressure etc.

The Warranty does not extend to damage caused by rain, fire, earthquake or other natural causes or acts of nature.

It is expressly agreed that this shall be the sole and exclusive remedy of the buyer stated herein, and under no circumstances shall Crystal Clear be liable for any costs, loss, expense, damages, special damages, incidental damages or consequential damages arising directly or indirectly from the design, manufacture, sale, or use or repair of the product whether based upon warranty, contract, tort or strict liability.

The Warranty limits Crystal Clear's liability and is in lieu of all other warranties and liabilities expressed or implied.

All implied warranties of merchantability and fitness for a particular purpose are hereby disclaimed by Crystal Clear and excluded from the Warranty.

WARRANTY PROCEDURE

Goods damaged during transit must be reported within five (5) working days of delivery.

Insured goods damaged during transit must be reported within twenty-four (24) hours of delivery.

A copy of the original invoice must be presented for any Warranty claim as proof of purchase.

The faulty item must be returned to Crystal Clear if such a request is made.

This limited Warranty is void if the Product under Warranty is presented without the said original invoice.

Crystal Clear may request that a Statement accompany the original invoice, signed by the Buyer, setting out the following terms:

1. The name and address of the Buyer.
2. The date and by whom the Product was purchased.
3. The date and by whom the Product was installed.
4. The location where the Product was installed.
5. The date and time the Product first appeared to malfunction.
6. The nature of the problem with the Product.
7. The date and time of any and all loss event/s.
8. The date and time Crystal Clear was first notified of the Product malfunction.

A failure by the Buyer to submit the said Statement within 28 days, after such request is made by Crystal Clear, will automatically void the Warranty.

A failure to answer truthfully or to answer in a way that is misleading, entitles Crystal Clear to void the Warranty and to notify the police in the event of suspected fraudulent conduct.

RISK

The risk in the Product will pass to the Buyer immediately upon the Product leaving Crystal Clear's premises for delivery to the place designated by the Buyer.

RETENTION OF TITLE

Crystal Clear will retain title to (but not risk in) a Product delivered to the Buyer until Crystal Clear has received payment in full for the Product and all other sums owing to it by the Buyer.

Until such payment, the Buyer holds the Product as bailee for Crystal Clear and may not sell or otherwise dispose of the Product unless authorised by Crystal Clear. If the Product is sold, the proceeds of sale will be placed in a separate trust account pending payment to Crystal Clear. The Buyer will store the goods in such a way as to enable them to be separately identified and will keep them insured at its own expense with Crystal Clear's interest noted on any such insurance cover.

If the Buyer fails to make any payment when due or becomes bankrupt or becomes insolvent, or has a judgement entered against it in any Court or enters into any scheme of arrangement, composition, or assignment or is in receivership or voluntary administration or liquidation, the Buyer grants Crystal Clear licence to enter any of the Buyer's premises where the Product is stored, and without notice, to re-take possession of and remove, at the Buyer's cost and expense, the Product in respect of which title has not passed to the Buyer.

THIS WARRANTY IS VOID IF

All filter housings are not installed with an Australian Standards approved pressure limiting and check valve.

The system is not turned off when residents are away for over 24 hours

The system is not serviced every 12 months. I.e. Replacement of filters, PLV check & assessment of general condition of system.

Product damage results from water hammer, freezing, neglect or is not installed by a licensed plumber in accordance with the installation plan.

A system connected to a chiller that does not have an expansion chamber, is not installed with a Pressure Relief Valve.

The water temperature exceeds 40° Celsius

The pressure exceeds 700kpa

SEVERANCE

If any of these terms or conditions or becomes for any reason wholly or partly invalid, that term or condition shall to the extent of the invalidity be severed without prejudice to the to the continuing force and validity of the remaining terms and conditions

JURISDICTION

Crystal Clear and the buyer agree that this agreement and its provisions shall be construed in accordance with the laws of the State of South Australia and be resolved by a South Australian Court.

Service Record

Installation Date: ___/___/___
Next Service Due: ___/___/___

1st Service: ___/___/___
Served By: _____
PLV Checked: Good Replace next FC
Tank pressure: ___ psi
TDS ___ ppm New membrane next FC
Next Service Due: ___/___/___

SERVICE NOTES:

2nd Service: ___/___/___
Served By: _____
PLV Checked: Good Replace next FC
Tank pressure: ___ psi
TDS ___ ppm New membrane next FC
Next Service Due: ___/___/___

SERVICE NOTES:

3rd Service: ___/___/___
Served By: _____
PLV Checked: Good Replace next FC
Tank pressure: ___ psi
TDS ___ ppm New membrane next FC
Next Service Due: ___/___/___

SERVICE NOTES:

4th Service: ___/___/___
Served By: _____
PLV Checked: Good Replace next FC
Tank pressure: ___ psi
TDS ___ ppm New membrane next FC
Next Service Due: ___/___/___

SERVICE NOTES:

5th Service: ___/___/___
Served By: _____
PLV Checked: Good Replace next FC
Tank pressure: ___ psi
TDS ___ ppm New membrane next FC
Next Service Due: ___/___/___

SERVICE NOTES: