

# PUREWASH

## ALTO 10

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Thank you and **Congratulations** on purchasing your new **PUREWASH™** System!

Your system is a proven performer manufactured from only quality materials and components right here in New Zealand and will give years of 'Spot Free' water free of impurities if maintained properly.

The system is designed for mains water supply but can be used in other situations. For other types of water supply please contact your local **PUREWASH** supplier or call our **PUREWASH** Customer Service Helpline (+64 22 352 4977).

The **PUREWASH** Water Filtration Systems filter cartridges and resin need replacing regularly to maintain optimum performance. This is a simple procedure when following instructions. For cartridge and resin replacements contact your nearest **PUREWASH** supplier.

Here's a quick guide to operating your **PUREWASH** 'Spot Free' Cleaning System. For correct operation & installation it is essential to observe these instructions.

### How It Works

Simply put, a **PUREWASH™** System removes all the minerals and solids out of the water to produce highly purified 'Spot Free' water

### FOR A MORE TECHNICAL EXPLANATION PLEASE READ BELOW

Water passes through the Pre-filter (CTO /sediment) cartridge to remove organic sediment, chlorine, viruses and more. As the water passes through the first filter it enters the larger tank where the De-Ionising process takes place. The **PUREWASH™** resin (Cation and Anion) work together to exchange positive and negative charged water minerals with hydrogen and hydroxyl respectively. After passing through both types of resins at least once, all that's left is highly purified, 'Spot Free' water. For many years, the process to make De-Ionised water was expensive and only used in pharmaceutical and industrial applications. For the first time **PUREWASH™** can provide you with a cheap and efficient way to produce instant, on demand 'Spot Free' water to be able to clean Cars, Boats, Buses, Windows, Garage Doors and More. Cleaning has never been so easy!



To maintain the high quality of the purified water the filter cartridges/resin need changing every 6-12 months (dependent on water quality and usage). You can obtain replacement cartridges and resin from your local PUREWASH supplier. To maintain performance and warranty use genuine PUREWASH replacements.

Also follow these guidelines:

- Where line pressure exceeds recommended max pressure on housing label a pressure limiting valve must be installed. Protect the housing from water hammer.
- Use on water only up to 52°C. For installation over 52°C please enquire as to a suitable housing. Protect the housing from freezing.
- Use PTFE thread seal tape on all connections. Use of pipe sealants will void warranty.
- Do not overtighten. Too much tape or over tightening may cause head to split.

**Installation Note:** A water filter system/tap, like any product, has a limited life and may eventually fail. Also sometimes failure happens early due to unforeseen circumstances. To avoid possible property damage, this product should be regularly examined for leakage and/or deterioration and replaced when necessary. A drain pan, plumbed to an appropriate drain or outfitted with a leak detector, should be used in those applications where any leakage could cause property damage, and/or the water supply should be turned off if no one is home/present.

**Positioning Your Filter:** If you choose to solid/permanently mount your system choose a location where any water spillage will not cause damage. Make sure mounting position is solid so that the filter housing stays in position when changing filters. An isolation valve may be installed immediately prior to the filter to isolate the filter for changing the cartridge and resin.

For detailed instructions on how to maintain your PUREWASH System please continue to read below.

A NEW PUREWASH™ SYSTEM IS FILLED WITH RESIN + FILTERS READY TO GO

1. Connect the provided inlet hose to a tap or water source (**figure 1**).

2. Make sure the other side of the provided inlet hose is connected to the inlet ball valve of the pre-filter (**figure 1**).

3. Inlet Ball valve on the pre-filter housing needs to be in the open position to allow the water to flow through (**figure 2**).

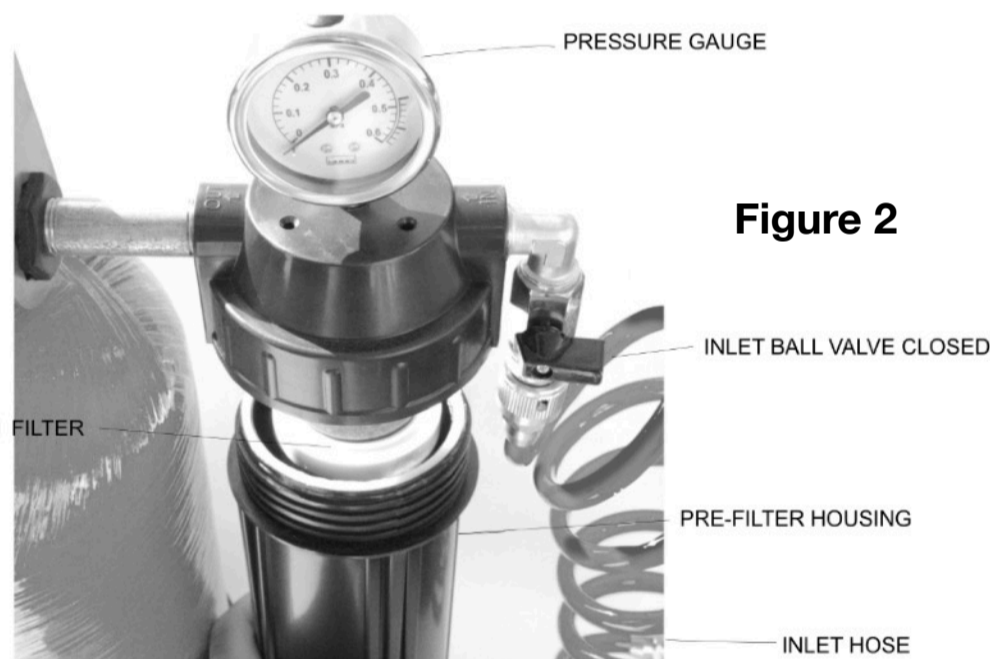
4. As water passes through the system from your pre-filter through to the reinforced pressure tank the system will pressurise. (assuming ball valve 2 is in closed position (**figure 3**), or water will run freely from the outlet if ball valve is open.

5. Normal operating pressure is between 20-100 psi and the gauge reading is an indicator that water is running through. If the pressure gauge is not above 0 it means either that the inlet ball valve is closed OR no water is running through the system.

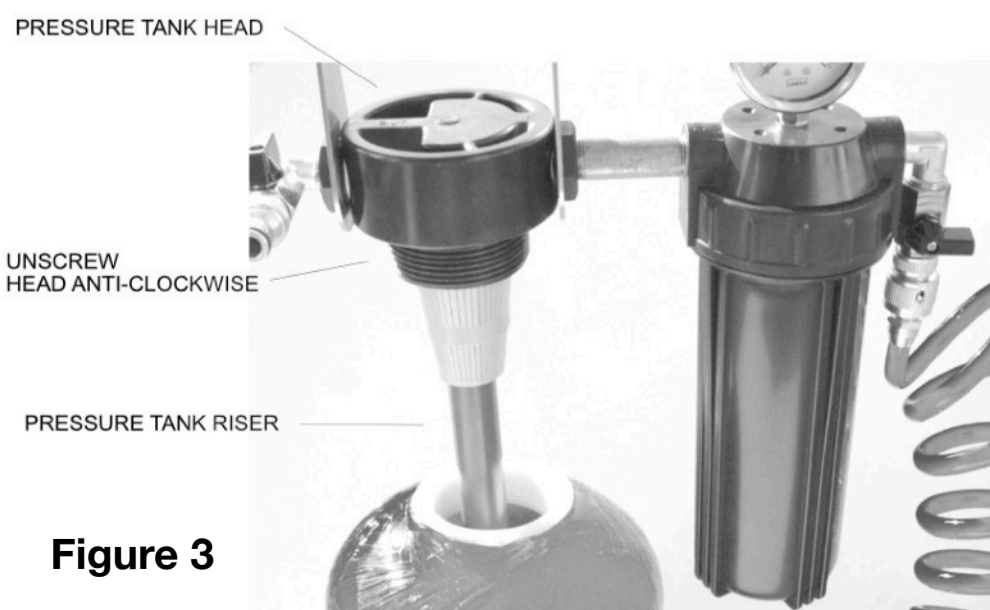
6. **WARNING:** the PUREWASH system is now under pressure. Before opening ball valve 2 make sure that your own outlet hose is plugged into the outlet of the PUREWASH system. Your 'Spot Free' system is now ready to use.



**Figure 1**

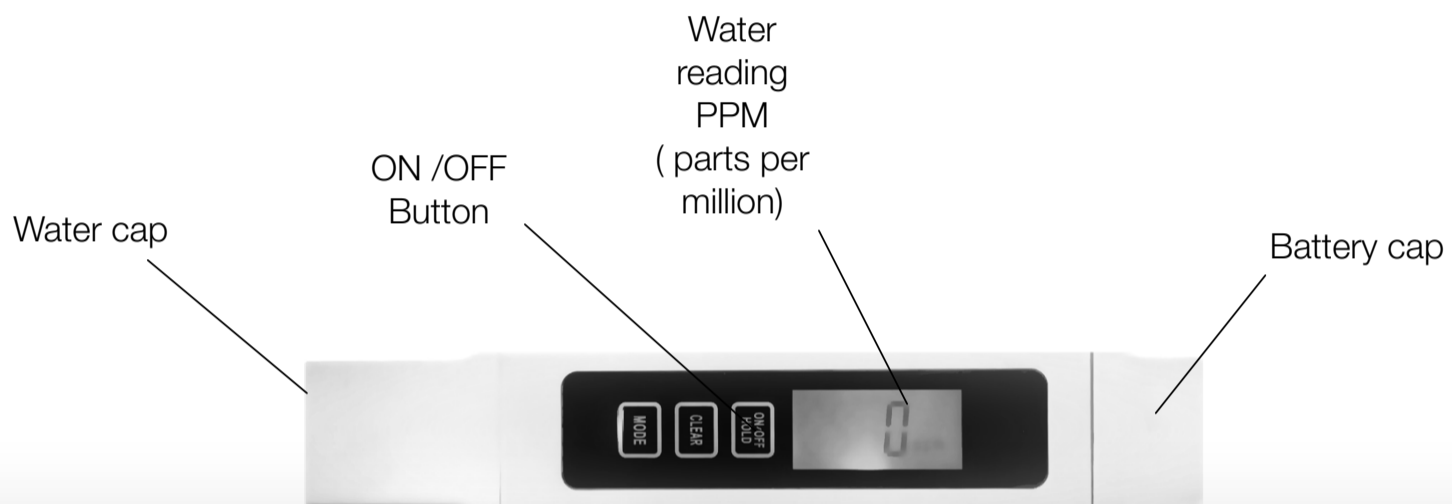


**Figure 2**



**Figure 3**

7. Your new system comes with a water quality meter. Use this to test the amount of minerals in your water. Simply take off the water cap and fill it up with tap water and connect it back onto the meter. Press on the On/Off button until you see the lcd turn on to test the water. The reading will show a number in PPM (parts per million). DO the same for the outlet quality of the water from your PUREWASH system. Your system will show 0-3 ppm depending on the calibration of the TDS meter. This indicates that there is no mineral content in the water. When the reading reaches 20 ppm from your system, its time to change and renew the resin. \* PUREWASH LIMITED is not liable or responsible for any damage due to expired resin or filters, its up to the user to check water quality when using the system GO TO [www.purewash.co.nz](http://www.purewash.co.nz) to replace your resin + filters.



9. Unscrew head of the pressure tank anti-clockwise and pull completely placing the riser and handle aside for reverse installation.

10. Empty old resin into garbage bin. Clean out pressure vessel and rinse clean.

Fill 1/3 tank with water to allow settling of resin.

11. Tear new bag of PUREWASH™ open and use funnel to pour 5L of resin into the pressure tank.

12. If there is any resin trapped in the thread of the tank, clean this area with fresh water first and assemble the riser onto the pressure tank and screw head on clockwise making sure to centre the head to avoid cross threading the head.

**IMPORTANT \*** If it doesn't seem easy to screw on, STOP!.. unscrew and redo.

Don't over-tighten head. As soon as the rubber seal engages the head + tank the seal will be water-tight.

Make sure rubber o-ring is sitting between head and pressure tank. The o-ring is loose on the head and can fall off during the empty process. keep an eye that it doesn't end up in the rubbish bin with your old resin.

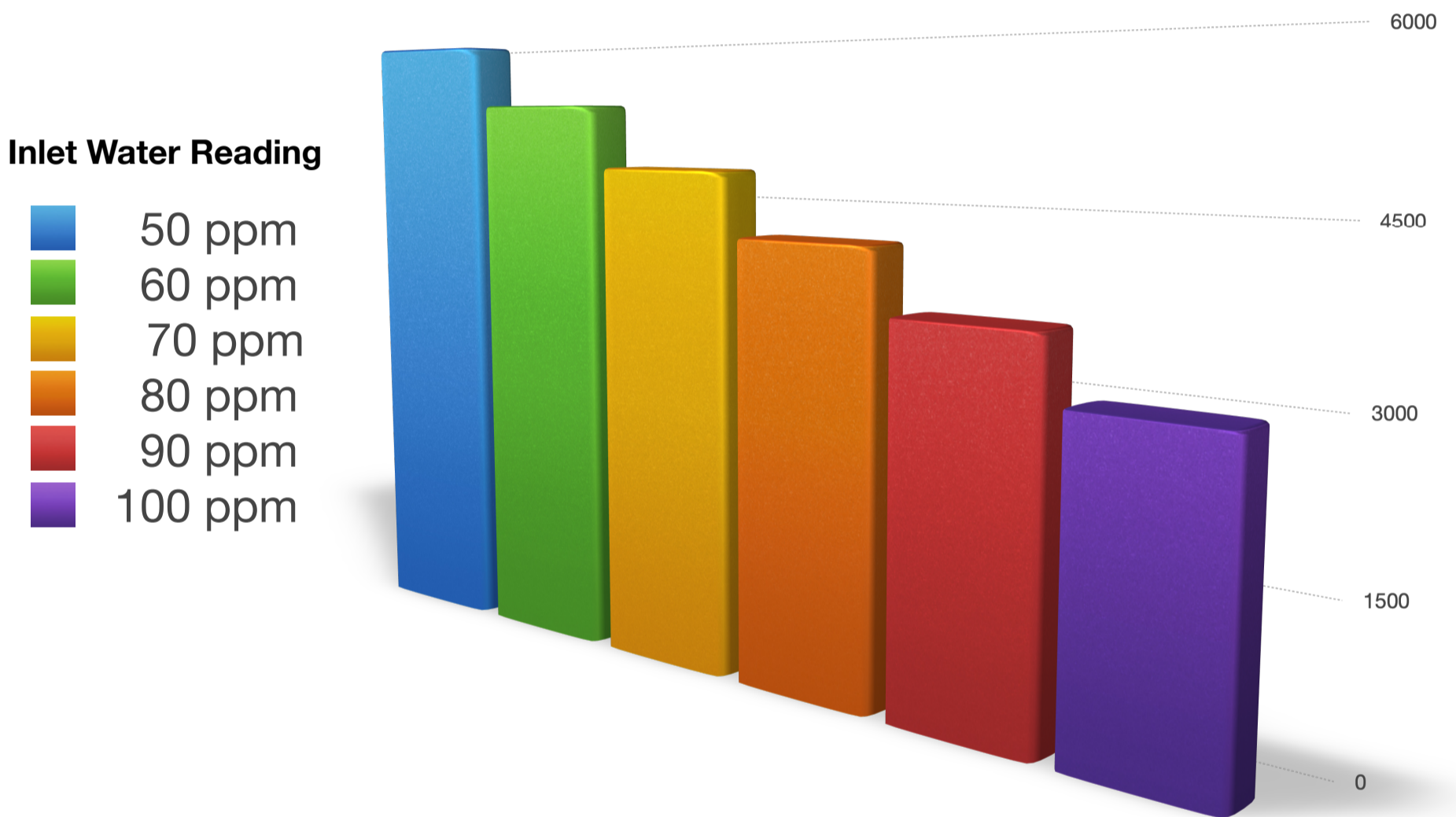
13. Connect to tap and test for leaks.

14. Test water quality(page 3).. Its now time to clean!



This will depend on the quality of the water from your tap. Throughout New Zealand the typical PPM ( parts per million) of TDS (total dissolved solids) is between 50-80 PPM or 4200-6000 Litres of 'spot- free water' from your ALTO 10 litre system.

Use your water quality meter to test. The graph below is a guide to the approximate yield of 'Spot Free' Water



### WHAT IS PPM AND TDS?

TDS- stands for total dissolved solids. This is the accumulation of minerals measured in Parts Per Million or PPM in your tap water. In NZ our typical water quality ranges from 50- 80 PPM. Below is a picture of the meter that takes the reading of the water quality and is sold with every WWWCS system.

### WHAT IS DEIONISED WATER?

Deionised water is water that has had almost all of its mineral ions removed. We can remove all these minerals that cause water spots through a process of filtration called ion exchange. It's a method that has been around for a long time most often used by laboratories to produce purified water on demand and other industries from medical through to skin care.

The end result is purified water that won't leave mineral deposits – water spots – on your car or windows! The bottom line is that a PUREWASH system is a blend of filtration and deionisation which gets the best results in the industry for spot free cleaning.

### WHAT ARE SEDIMENT FILTERS?

Sediment filters are designed to remove suspended solids, which are also known as sediment, turbidity, or particulate. A sediment filter essentially functions like a net that catches unwanted dirt particles as your water flows through the system. Water can contain all sorts of sediment from rust to insects, dirt, algae and bits of washed in plant matter.

Sediment filters have a limited function. Only sediment that will become trapped in the bed of natural media is removed. Trace pathogen elements, heavy metals, and volatile organic compounds can still remain in the water. Sediment filters are particularly beneficial when working in rural areas (well water) and are a cheaper alternative than the carbon filters for this purpose.

### WHAT ARE CARBON FILTERS?

Carbon filters remove sediment but they also remove chlorine, volatile organic compounds (VOCs), odours and unpleasant tastes from water. Carbon filters contain activated carbon, which is made through a special manufacturing process that creates more bonding sites. As water passes through a carbon filter, impurities like VOCs and heavy metals become chemically bonded to the carbon. As the water works its way through the filter, a lot of unwanted impurities will become stuck to the carbon bonding sites and the water will leave the filter much more pure than it came in.

Carbon filters are effective at removing the impurities that bond to carbon. Not all impurities do. Sodium, for example, is able to pass directly through carbon filters without being removed.



### WHY SHOULD I USE A PUREWASH SYSTEM?

'PUREWASH Systems can provide spot free vehicle and window cleaning with zero environmental impact. Tap water goes through a process which de-ionises the water and removes all impurities that normally cause 'water spotting'. PUREWASH systems' has all these minerals removed so there is nothing left to spot when pure water evaporates. Its even more pure than rain water!

### WHAT CAN PURE WATER CLEANING SYSTEMS BE USED FOR?

- Window Cleaning, Domestic and Commercial
  - Vehicle Rinsing, Vehicle Groomers
  - Boats & Personal Water Craft
  - Building Washing, Property Maintenance Companies
  - Pharmaceutical & Laboratory Applications
- and many more... Please note Deionised Water is not suitable for drinking purposes

### HOW DOES IT WORK?

As the water passes through the filter(s), all the spot causing calciums and minerals in the water cling to the resin beads and the purified water continues on to provide 'Spot Free' water.

### WHEN DO I NEED TO CHANGE THE RESIN?

We recommend replacing the filter when the TDS meter reads above 20 ppm.

Deionised water systems produce 0-3 ppm water which is physically impossible to leave any spot-inducing residues on your work surface. Filter expiration characteristics are primarily dependent on your local water quality (higher flow rates/resin age can also contribute) and may produce work surface damage above 20 ppm. Nearly every one of our customers do not experience any spots/damage between 1-10 ppm and the vast majority of our customers do not experience spots/damage between 10-20 ppm.

- Use above 20 ppm may cause damage to your work surface.
- Use above 20 ppm may cause damage to your work surface due to a rapid decrease in pH.
- You must test your system above 0 ppm with your local water source on a test surface to determine your system's expiration characteristics

### WILL THIS UNIT WORK WITH WELL WATER?

Some well water users have experienced adverse results when using the system downstream of iron removers and/or water softeners. It is best to use the system with your well water before it passes through any stripper/softener and do not use if your PUREWASH unit TDS meter reads any number above 0 (typical resin life exhibits 000 ppm through approximately 90ppm).

### WILL SOFT WATER EXTEND THE LIFE OF MY RESIN?

Softened water (potassium or sodium based) will not extend the life of the resin. The TDS count of the water coming out of the water softener will be (more or less) the same as the water going into your softener and may damage your work surface in cases with high levels of total dissolved solids in the supply water.

### WILL IT REMOVE MY WAX?

No, it will not remove your wax and the best part is that you do not have to worry about tiny scratches cause by drying with a towel or chamois!

### WILL THE RESIN GO BAD IF I LET MY SYSTEM SIT FOR A LONG TIME BETWEEN USES?

Yes, it is possible. After long periods of non-use there is a possibility that algae can form and foul the resin. If it is going to sit for a long period of time with out use (60-90 days) we suggest that you remove the resin cartridges, allow them to drip dry and dry the inside of the blue housings to prevent algae growth.

### DO I NEED TO USE A SPECIAL SOAP?

No, you don't need to use a special soap to achieve spotless results using our systems. Just use your normal soap and make sure you rinse thoroughly wherever soapy water can be trapped. Be mindful of soapy or contaminated water that can get trapped in places and displaced by our \*spot-free\* water, only to land on a spot you've already rinsed! Rinse and rinse again is often a good idea in problem areas.

### CAN I DRINK THE WATER?

No, please do not drink the water. Deionised water produced by our system is not meant for human consumption and has no nutritional value.

### THE SYSTEM IS ALL CONNECTED BUT NO WATER IS COMING OUT?

check that the ball valves are not in the shut off position. Sometimes you may have to check whether the tap is turned on also! ( you will be surprised how many people will make this error) Make sure that the water is going through the system via IN - OUT direction flow. Plugging the system in reverse may not flow any water and block up the system with Resin. If this happens, unplug the system and clean the inlet outlets to be sure of good flow.

### HOW MUCH WATER PRESSURE IS OK?

The tank housings are rated at 140 psi maximum and the unit is leak-tested to handle this amount of pressure. Typical residential regulators reduce pressure to 65psi and both your Spotless Water unit (and your house) may be in jeopardy if operated above 140psi.

### DOES THE RESIN HAVE A SHELF LIFE?

Yes, the resin has a shelf life of approximately 12 months before it will start to lose effectiveness.

### HOW DO I STORE A PUREWASH SYSTEM?

Between use make sure that the unit is sealed on the inlet and outlet ports from air to the system. Failure to store system in this way will reduce shelf life of the PUREWASH system making 'Spot Free' Water.

### WHAT STANDARD WATER DOES THE SYSTEM PRODUCE?

Our **PUREWASH RESIN** unit produces Type III water per the ASTM standards noted below:

ASTM Standards for Laboratory Reagent Water (ASTM D1193-91)

ASTM: American Society for Testing and Materials

Measurement (Unit)	Type I	Type II	Type III	Type IV
Resistivity (MΩ-cm)	> 18	> 1	> 4	> 0.2 (200KΩ)
Conductivity (μS/cm)	< 0.056	< 1	< 0.25	< 5
pH at 25°C	N/A	N/A	N/A	5.0 – 8.0
Total Organic Carbon(TOC) ppb or μg/L	< 50	< 50	< 200	N/A
Sodium (ppb or μg/L)	< 1	< 5	< 10	< 50
Chloride (ppb or μg/L)	< 1	< 5	< 10	< 50
Silica (ppb or μg/L)	< 3	< 3	< 500	N/A

### I JUST USED MY PUREWASH SYSTEM FOR THE FIRST TIME RINSING MY CAR AND I HAVE SPOTS? DISAPPOINTED!

Rats! We hate it when that happens...it's why we created the system in the first place! Assuming those spots weren't already there (ahem...our system only keeps them from forming; it does not remove them), this could be due to a few issues.

The primary causal factor is letting the work surface dry outdoors when 'stuff' is floating in the air and lands on the drying water causing a 'dust ring'. Airborne pollen and neighbours with yard blowers are the bane of \*spotless\* existence so keep an eye (and ear!) out for these contaminant sources. (A windy day is going to carry dust in the air)

Another causal factor could be that the output hose you're using is old...and probably a 50 footer. Over time, hoses will absorb minerals and the first thing deionised water wants to do is collect 'em up and (unfortunately) carry them out the business end of the hose and onto your work surface. As long as your meter is reading 0, the only thing coming out the business end of the system is hydrogen & oxygen so be sure you're not donating any unnecessary minerals to your spot-free water. A new hose should solve the problem.

Another reason may be that you're rinsing away pockets of soapy water and some of that is getting bounced onto areas you've already rinsed off. Don't use more water than you have to, but it is necessary to remove all soapy and/or 'dirty' water to enjoy the \*spot-free\* capability we designed into the system.

### CAN I USE A WATER BLASTER WITH MY PUREWASH SYSTEM?

Yes! A domestic water blaster draws approximately 5-10 litres of spot free water through the system. This is a great idea to rinse off the soap off your car quickly or to maintain your vehicles appearance on a frequent basis without the need to scrub or chamois. Using a water blaster will get the job done quicker!

Using a water blaster is twice as effective as a 'water broom', a spray nozzle to blast contaminants off flat surfaces a lot quicker than a standard hose nozzle.

ALTO 5L- 8-12 Litre per minute

ALTO 10L 14-18 Litres per minute

### CAN I LAY THE SYSTEM DOWN TO TRANSPORT IT?

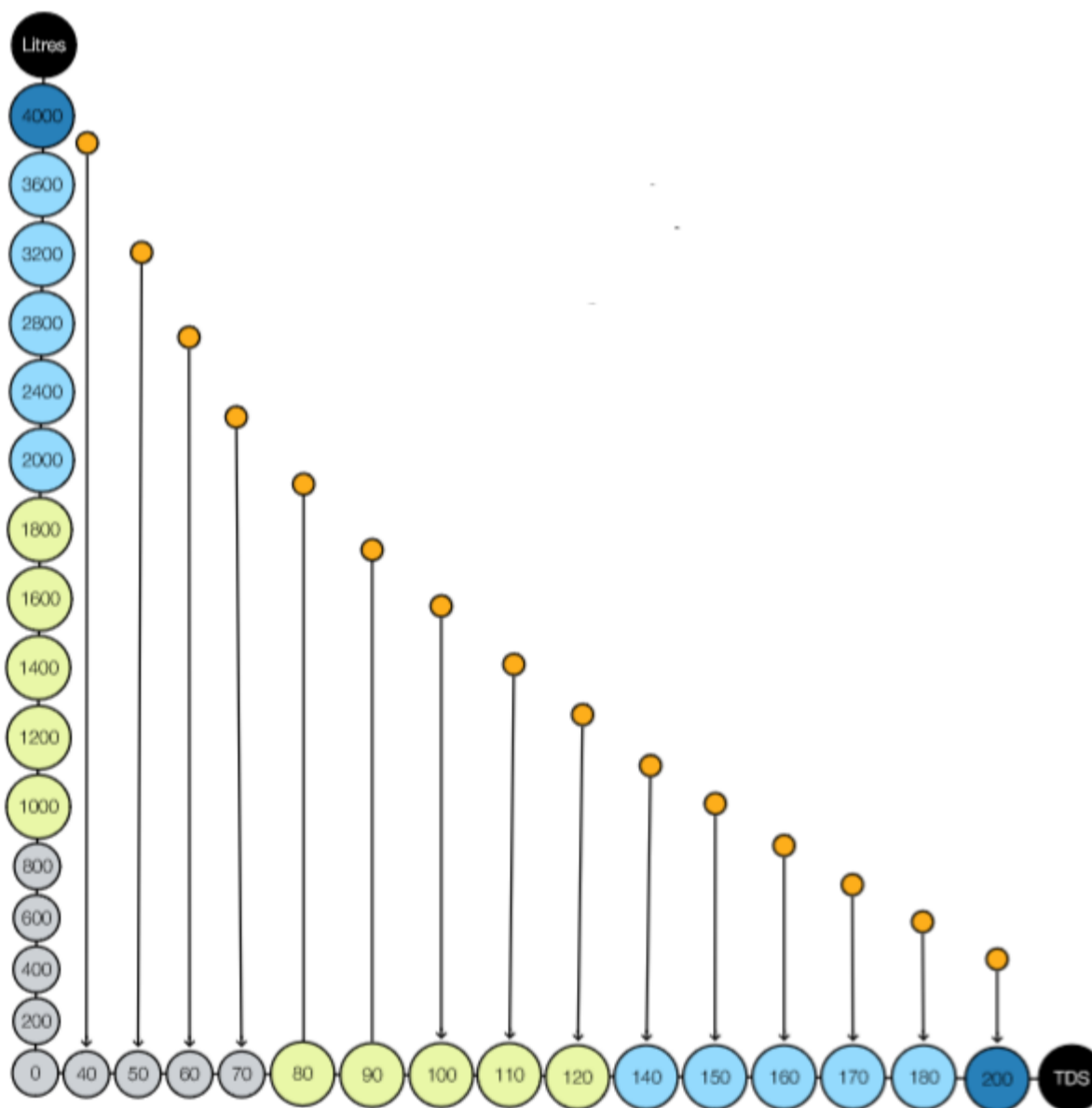
Yes. Make sure the system is sealed by ball valves. For extra water tightness use the supplied hose on outlet and inlet ports to seal the system also. The usual checks apply to tying down-time system so it doesn't bounce around. The responsibility is your's not PUREWASH LIMITED.

### HOW MUCH WATER INLET PRESSURE IS OKAY?

Houses running off municipal water supplies will have a regulated water pressure that is safe for the PUREWASH system. Depending on what model system you have will determine the pressure your purewash system can handle. If your system has a pre- filter it will be rated at 90 psi and the resin tank is rated at 150 psi. Make sure that you don't use your system if you are going to run over 80 psi as a precaution or install a reducer valve if a high pressure pump is being used.

### HOW OFTEN CAN I CLEAN MY VEHICLE BEFORE THE SPOT FREE WATER RUNS OUT?

To answer this question we have a simple chart below that will show you the amount of approximate spot free water your system will produce depending on your inlet water quality. The higher the TDS reading the less spot free water your system will make. Most places around New Zealand are between 40-90 PPM. So this means you should be able to produce 1800-3600 litres of spotless water. Now that's cheap!!



Any claim under this warranty must be made within 5 Years of the date of purchase of the product. This product is warranted to be free of defect of material and workmanship for 5 Years from date of purchase. 1 year warranty is 1 year parts and labour, plus 1 years parts only. Excludes cartridges and resin.

To make a claim under the warranty, take the product and proof of purchase to place where you purchased the product, and they will lodge a Warranty Request with **PUREWASH**.

**PUREWASH** will pay your reasonable, direct expenses of claiming under this warranty. You may submit details and proof of your expense claim to place of purchase for consideration.

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.

Applicable to all above, is that the warranties need to be approved by **PUREWASH** to ensure product was not incorrectly used, installed or claimed. False and incorrect claims will be pursued at **PUREWASH'S** discretion, including chargeable inspection and labour costs incurred.

### Warranty/New Zealand

This warranty is given by **PUREWASH** Ltd, Reg. No 5694051, telephone no. +64 22 352 4977 and email at [info@purewash.co.nz](mailto:info@purewash.co.nz)

This warranty is provided in addition to other rights and remedies you have under law: Our goods come with guarantees which cannot be excluded under the Consumer Guarantees Act. You are entitled to replacement or refund for a major failure and to compensation for other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

**Thank You for choosing PUREWASH™!**

If you have any questions about your PUREWASH™ System, or any of our other available products, then please don't hesitate to get in contact with us via our Social Medias or Website .



**PUREWASH**

[WWW.PUREWASH.CO.NZ](http://WWW.PUREWASH.CO.NZ)