



PRIVATE DWELLING, OROPI, NEW ZEALAND

CASE STUDY



TESTING

Before any system recommendation could be put forward the Puretec Water Treatment Team advised the new home owner to conduct a thorough water test (via an independent laboratory) and provided the owner with a guide to water analysis and laboratory contact details.

The tests results from the laboratory confirmed the water being stored on the property contained high levels of E. coli 16, sediment and low ph levels (6.6).

THE CUSTOMER

This private dwelling is 5.22 hectares of picturesque rural land with a 4 bedroom 3 bathroom home. The property also features a beautiful avocado orchard.

Located in Oropi, a rural settlement in the Bay of Plenty region of the North Island of New Zealand. Oropi is mainly a farming community of both agricultural and horticulture ranging from kiwifruit orchards to dairy farms.

THE WATER CHALLENGE

The property was recently sold and the new owner was concerned about the water quality after testing proved a presence of E.coli in the water tanks.

The further challenge with resolving the issue was that it would need be installed in just two weeks when the new owner was due to move onto the property. The solution also had to take in consideration that the water was being sourced from a bore and then pumped into the storage tanks.



THE SOLUTION

First a shock dose treatment of TankSafe was required on the existing water tanks and a complete flush throughout the house to kill the E. coli. It was decided the best water treatment solution for the property was a combination system comprising of a MPB202B Bag Filter Housing with a 5 micron bag filter, an NTS4000 Neutraiser with bypass for servicing) and a Hybrid G13 Triple Filtration and UV All-in-One Unit.

1

Coarse Sediment Filtration.

As with any form of collection from a bore / tank water supply, sand, dirt, rust and other large particles are easily mixed up into the water. In this case the test results proved the water was highly contaminated with large particles and the bag filter was determined to be the best first-stage of the filtration setup for the home. The bag filter would not only filter out sediment but also effectively trap a large amount of the oxidised iron and manganese coming through the water supply (most likely from the storage tank).

Pre-filtering these larger particles before reaching the finer filtration stages, prolongs the life of the Hybrid filter cartridges and makes maintenance more cost-effective for the home owner.

2

Restore pH Balance.

The next step was address the low pH level in the water. Low pH levels are acidic and can cause metals to leach from supply pipes. These metals include lead, manganese, copper and iron and can be toxic in large amounts. A Puretec NTS4000 is designed to correct the pH of the water. The unit effectively utilises a calcium carbonate media to lift the pH, which slowly dissolves into the water.

3

Fine Sediment, Taste & Odour Removal Plus UV Protection.

Now with the larger sediment particles, iron, manganese reduced and with the pH balance restored, a unit that would refine the water ready for drinking was needed.

The Puretec G13 unit was the best solution, first filtering down the remaining larger particles using a pleated filter cartridge. During the second stage of the unit the water passes through a carbon filter to remove any bad taste, odour and chemicals. The third stage is critical to ensure all suspended particles and microorganisms are finely filtered down to 1 micron to ensure the UV treatment in the final stage is able to properly penetrate the water.

The final stage uses Radfire™ technology, a natural purification process that's completely eco-friendly and chemical-free it kills 99.9% of bacteria (including E. coli) in the water. Leaving pure, safe, great-tasting drinking water at every tap.



MPB202B

The Puretec MaxiPlus™ bag filter housing assembly is commonly used in high sediment, chemical and process applications where longer service life is required. Durable and lightweight polypropylene construction is used giving a compact assembly. The Puretec MPB Series is capable of flow rates of up to 180 litres per minute, 38°C temperature, and a maximum pressure of 520 kPa.

Available in 1½" connection size. The Bag filters come to suit in 1, 5, 10, 25, 50, 100 and 200 micron grades. Duplex systems, manifolded together are recommended for higher and/or uninterrupted flows. Custom design manifolds can be designed and supplied.



NTS4000

Acidic water can cause corrosion of pipe-work and seals in the water line, causing costly damage.

When water drops below 7 pH it becomes acidic (depending on how low the pH drops) and may begin dissolving copper from your pipes.

This reaction results to the green and blue stain on your tap fittings, in your sink, bath and shower recesses.

These units effectively utilise a calcium carbonate media to lift the pH, which slowly dissolves into the water protecting the plumbing system from corrosion.

WTV5000

The Puretec WTV5000 bypass valve is typically used to isolate the control valve from the plumbing system's water pressure in order to perform control valve repairs or maintenance.

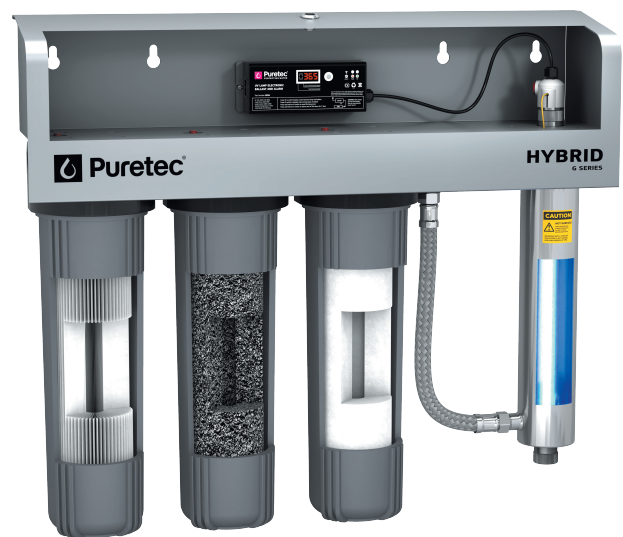
The 1" full flow bypass valve incorporates four positions, including a diagnostic position that allows service personnel to work on a pressurized system while still providing untreated bypass water to the facility or residence.

Its completely non-metallic, all-plastic design allows for easy access and serviceability without the need for tools.

HYBRID-G13

This system reduces sediment, chemicals including chlorine, bad taste, odour and is highly effective in eliminating 99.9% of bacteria and parasites in your water.

Suited to medium to large applications, these systems are designed for both mains and rainwater supply (or bore water when specified). This unit features a weather protection cover that is suitable for outdoor installation and an anti-tamper & childproof lockable lid. It incorporates an additional filtration stage for extra contaminant removal and capacity.



MAINTENANCE

As with any water purification product, regular maintenance is what keeps these systems performing at their best for years to come.

MPBR052 (Bag Filter): Will require regular cleaning guided by the pressure gauge. If after cleaning the pressure rating doesn't lower it is time for a replacement bag.

NTS4000 (Neutraliser): Monitor media level every 3-6 months and top-up as required (maintain level of 1/3 - 2/3 full). In a household application, this is typically required approx every 12 months and can be purchased in 15L buckets (WTM2000-15L).

HYBRID-G13 (All-in-One Unit): Typical cartridge life is 6 - 12 months, and the UV lamp life is 12 months. These can be purchased separately, or as part of the Hybrid Maintenance Kit and can be performed without the use of any extra tools. As a 'ballpark' estimate, in a household application this translates to under \$2 per day (approx) for the whole house.

THE RESULT

A new analysis showed zero E.coli and coliforms within the home, the pH level has now been corrected to 7.0 and there is also no visible sediment. The household water not only looks great but it is now safe, pure and great-tasting drinking water at every tap.

Working together with a local Puretec dealer and local plumber not only solved the issues but with attention to details, the assurance of the best possible result was given.

" We think the Puretec system is doing a wonderful job and results from our most recent Hill lab test prove this. We've used Puretec in three different homes now and every time it's been an excellent experience. This most recent system has been quite extensive and all through from water testing, ordering and installation there's been absolutely no problem - in fact it's been such a pleasure dealing with Puretec. We 100% trust Puretec and the product they offer due to the help, expert knowledge and equipment their team provide. " - Monique (Home Owner)

For all water treatment solutions/recommendations call
our water specialists on **1300 140 140** (AU) **0800 130 140** (NZ).

