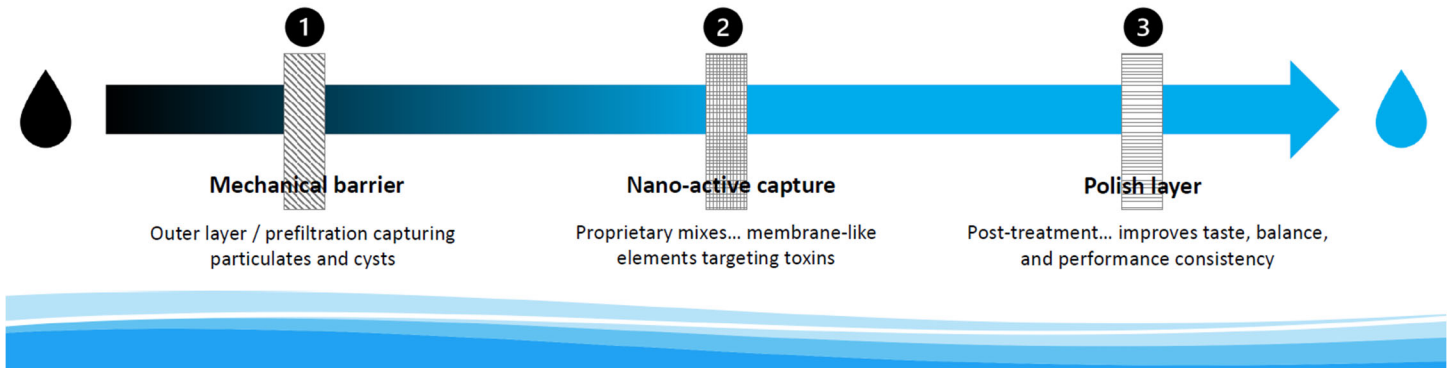


How Does It Work?

Proprietary Nano-Based Filtration: Engineered for Absolute Purity and cost reduction for users.
Our engineered filters deliver extreme purification without pressure loss issues or wastewater.

- Multi-stage nano-filtration removes >99.99999% of bacteria and >99.9999% of viruses (6-7 log reduction).
- Certified to NSF 53 for PFAS, PFOA, and PFOS removal.
- Removes heavy metals, pesticides, microplastics, and pharmaceuticals.
- Zero-wastewater – unlike reverse osmosis (RO) systems that discard 50-80 % of input water and reduce flow pressure.
- Scalable design – from under-sink units to high-volume industrial applications.

Constant Pressure Flow — No pumps, no tanks, no performance loss. It's simple.

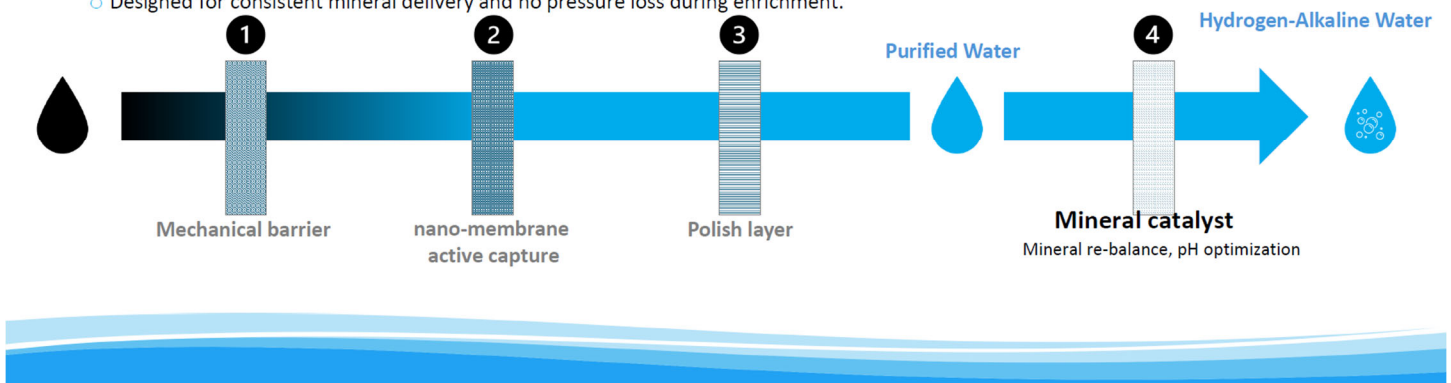


Alkaline Enrichment: Water That Supports Wellness

Adds beneficial minerals to promote balance, hydration, and vitality. Simply applied to existing systems.

Toppen's nano-engineered filters deliver extreme purification without pressure loss or wastewater.

- Mineral-release layer reintroduces calcium, magnesium, and trace elements to restore natural balance and improve taste.
- Mineral impact on molecular H₂, helping neutralize oxidative stress and enhance cellular hydration.
- Optimized pH (8-9) creates alkaline balance without over-mineralizing or altering mouthfeel.
- Combined filtration + enhancement delivers both safety and functional benefit in a single cartridge.
- Designed for consistent mineral delivery and no pressure loss during enrichment.



Adds minerals and micro-nutrients

Whole-Home Water. Reengineered.

Designed for Municipal and Well Water Supply

The Facts

- 99.9999999% bacteria removal (>9 LRV*)

- 99% reduction of heavy metals (97.2% lead reduction)
- 95% reduction of PFAS (forever chemicals, PFOA/PFOS)
- Anti-scale filter to treat hard water
- No water softener needed
- No heavy bags of salt
- No salinized wastewater
- Reduces the scale buildup on faucets, cookware, appliances; leave good minerals in water
- Particulate reduction down to 20 nm.

Step 1 - Uses a multi-faceted filter, removing large particles - greater than 5 micron. Simultaneously conditioning the incoming water so it can no longer form calcium carbonate – no more spots when cleaning, dishes, silverware. This filtration process extends the life.

MicronGuard™ our next stage, filters out sediment. Conditions water so glasses and faucets remain spotless.

Step 2 - Uses our proprietary MicronGuard™ filter, removing bacteria, viruses, cysts, spores, and other pathogens. Engineered with an activated carbon high surface area paper reduces pathogens, pesticides, pharmaceuticals, forever chemicals (PFOA/PFOS), and heavy metals (including lead). We incorporate Agion silver particles preventing the filter from biofouling.

Step 3 - Stage 3 is the Final polishing of PFOA/PFOS, lead, chlorine, pesticides, and other contaminants with a high-capacity carbon filter. This improves taste and smell of water. This carbon will outperform similar carbons due to the purity of water at this step of the process.

Zero-Waste Filtration: Environmental Innovation at Its Core

Toppen's innovative technology reduces plastic waste, conserving water through responsible, high-efficiency design.



PURIFY

Zero-Wastewater Performance

- Uses 100% of input water with no wastewater discharge.
- Avoids the 50–80% water loss seen in typical RO systems.
- Supports responsible water use in homes, clinics, and industry.



ENHANCE

Plastic Waste Reduction

- Replaces bottled-water use in residential and hydration markets.
- Each installed system can eliminate 1,000–1,500 plastic bottles per month for a family of four.
- Lower plastic disposal, fewer microplastics, cleaner water.



SUSTAIN

Lower Carbon Impact

- Eliminates emissions from bottled water manufacturing and transport.
- Reduces ~150–250 kg CO₂ per household per year.
- Long-life filters and recyclable components reduce long-term footprint.

Toppen's technology inherently supports sustainability. Delivering cleaner water with less waste, less plastic, less energy - at the lowest price possible.



**Passed NSF
Standard 42**

(Class I Particulate, Cysts, Extraction Testing)



**Passed NSF
Standard 53**

(PFOA/PFOS) less than 20 Parts Per Trillion
(10PPT PFOA/10PPT PFOS) Chlorine
Reduction, Extraction Testing Selection
colors

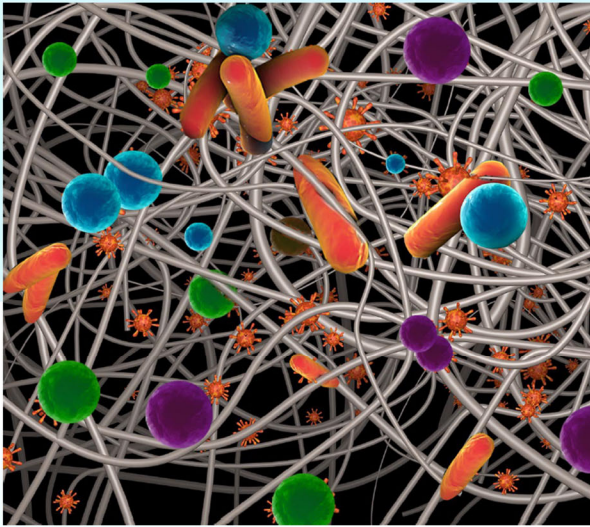


**Passed NSF
Standard 61**

(Extraction Testing, Pressure Testing)

Step 1: Proprietary Nano-Based Filtration – MicronGuard™:

MicronGuard™ Breakthrough Technology



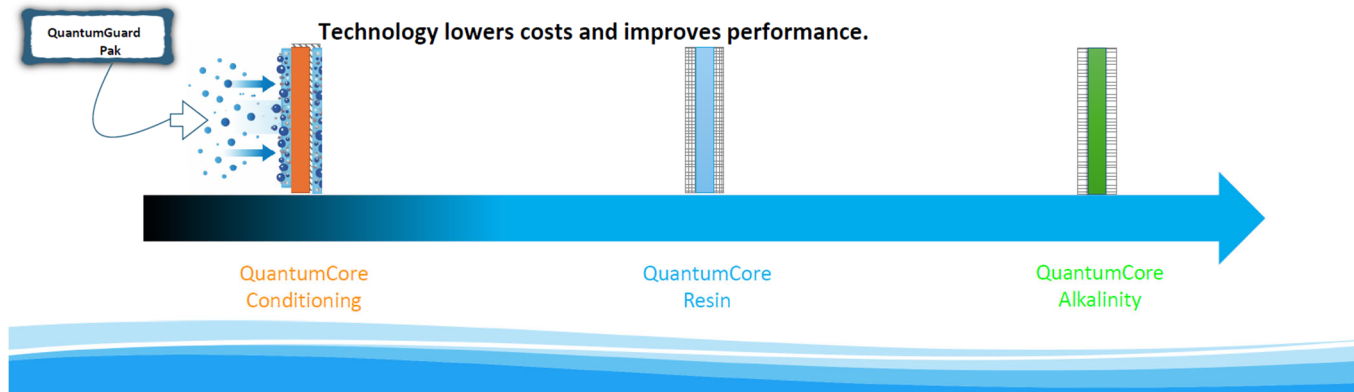
- Exceeds nanofiltration results at low pressure:
- 99.9999999% bacteria removal (>9 LRV*)
- 3rd party testing conducted at two different laboratories**
- 1.36 psi over 3-filter whole house system
- 99% reduction of heavy metals (includes 97.2% lead reduction)
- 95% reduction of PFAS (forever chemicals, PFOA/PFOS)
- No water loss (no back flushing or wastewater generated), unlike RO systems
- Does not need to be plumbed to septic or municipal wastewater outlet
- Extremely low pressure drop versus 30-40 psi drop with other whole house systems
- 10x dirt holding capacity than mechanical filters (spiral wound, polypropylene, etc.)
- Affordable, low maintenance, installs easily, all parts included, no electrical or waste connections

Step 2: QuantumGuard™ & QuantumCore™:

Proprietary Nano-Based Filtration: Targeting unique pathogens/enabling slow release

Proprietary Modifications made to the filtration Enables Technology. This is only possible due to the high capacity and low pressure attributes of the high surface area pleated substrate.

- QuantumGuard™ - allows surface modification of each filter via mechanical filtration to be able to ~~adsorb~~ **adsorb** contaminants.
- QuantumCore™ - allows unique resins/sorbents to be placed in the return core of each filter to target unusual toxins using the same filter array. Also allows the release of disinfectants, softening resins, pH adjustment resins, nutrients, etc.



Proven by Data: Independent Testing and Early Pilot Results

Third-party testing and real-world trials confirm Toppen’s superior purification and wellness performance. It's not just us, we've proven our products using approved certified laboratories and protocols.

Independent Lab Testing

- Verified 6 - 7 log microbial reduction (>99.9999 % elimination of bacteria and viruses).
- PFAS, PFOA, PFOS removal certified to NSF 53 standards.
- Achieved zero wastewater output under continuous-flow conditions.
- Maintains constant line pressure during extended use.

Pilot Program Results

- Dental practices (Phase 1 pilots): consistent high-pressure delivery, improved taste, and clinician approval.
- Residential installations: zero maintenance issues, positive consumer feedback on water quality and taste.
- Data under review for NSF/ANSI 42 & 53, hydrogen-water testing, and extended-use durability.

Next Validation Milestones

- Clinical collaboration with wellness and dental partners – H₂ impact on hydration and oxidative stress.
- Third-party certification expansion: NSF/ANSI 58 & 401 P238 (emerging contaminants).
- Lifecycle testing for cartridge longevity and mineral delivery stability.

Scientific validation underpins Toppen’s differentiation - proven purity, functional enhancement, and sustainable performance ready for scale.

Toppen’s Filtration Vs Traditional Water Filtration

Removes	Toppen	Reverse Osmosis
PFAS (forever chemicals)	✓	✓
Bacteria, spores, cysts	✓	✓
Heavy metals (like arsenic, lead, and mercury)	✓	✓
Pesticides, trace pharmaceuticals	✓	✓
Microplastics and other particulates	✓	✓
Features	Toppen	Reverse Osmosis
Odours	✓	✗
Taste	✓	✗
High flow rate	✓	✗
No waste water	✓	✗

Zero-Waste Filtration: Environmental Innovation at Its Core

Our CleanWater Systems reduce plastic waste, conserve water while applying the top-efficiency design.

How Important is Plastic Waste Reduction?

Example: Annual amount of water bottles for a family of three household...

**Pallet
Of
Water**

**84 Cases
2,016 Bottles**



Estimated cost @ \$0.50/bottle
\$504/gallon

OR



Estimated cost @29.95/bottle
\$0.05/ gallon

Sustainability

Each water bottle filter is viable for 500 gallons. That is equivalent to 2,000 water bottles. After consuming 500 gallons of water, another bottle is not required, only a replacement filter.

Bottled Water Quality:

- Usually devoid of minerals
- High in micro plastics
- Does not have to meet Safe Water Drinking Act standards as bottled water is classified under food regulations

Our Water Bottle Quality:

- PFAS/PFOA/PFOS removed
- Chlorine removed
- Micro plastics removed
- Pesticides removed
- Pharmaceutical removed
- Lead removed
- Bacteria, virus, cysts and spores removed
- NSF certified

Vitapure's technology inherently supports sustainability by delivering cleaner water with less waste, less plastic, and less energy use.

QuantumRegen

New method to reactivate activated carbon filters in-situ

- Reactivates any form of activated carbon to over 99% of original performance specifications.
- Regeneration is accomplished in-situ/in any vessel containing carbon product.
- Process takes one to two hours.
- In PFAS applications, does not generate a hazardous waste as organic molecules are oxidized.
- Powdered product applied via dissolvable packs that are placed in vessels. (Ease of application)

PurBright

Pool/Spa technology that generates a stabilized hydrogen peroxide and saturated oxygen

- Produces high clarity water.
- Stabilizes water pH and alkalinity.
- Non-damaging to skin.
- Dissolved oxygen provides health benefits
- No chlorine or other nasty odors.

For waste-water systems and reducing waste-water fines and fees.

Closing the Loop: Regenerative Water Treatment Opportunities

Regenerative Carbon Technology for Sustainable Wastewater Treatment

Vitapure applies advanced, in-situ carbon regeneration processes to capture, restore, and reuse carbon filtration media—delivering high-performance contaminant removal without the waste, chemicals, hauling costs or inefficiencies and liabilities of traditional systems.

KEY DIFFERENTIATORS

- Closed-Loop System – Minimizes or eliminates carbon disposal and transportation costs
- Reduced Operating Costs – Less media replacement and handling
- In-situ regeneration eliminates RCRA liability in hazardous waste hauling
- Lower Environmental Impact – No landfill waste, reduced chemical usage
- High Contaminant Removal – Effective on emerging contaminants (PFAS, pharmaceuticals, micro plastics)
- Scalable Design – Applicable across industrial, municipal, and commercial systems

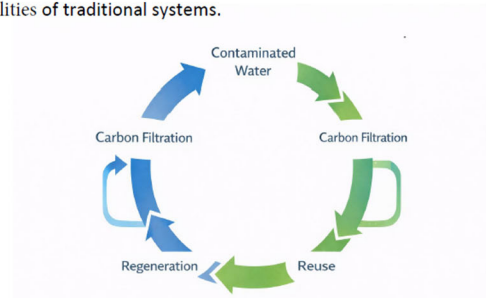
MARKET CONTEXT

Industrial / Commercial Opportunity: \$20B+ global market 6–7% CAGR growth

Driven by:

- Sustainability mandates
- PFAS / emerging contaminant regulations
- Infrastructure modernization
- Water reuse initiatives

[From Zero Waste to Wastewater Solutions—Vitapure delivers a complete, sustainable water lifecycle strategy.](#)



HOW IT WORKS

Capture: High-surface-area carbon adsorbs contaminants including PFAS, VOCs, metals, and organics

Regenerate: Carbon is restored through proprietary regenerative advanced oxidation process) that is done on - site.

Reuse: Media is returned to service—eliminating constant replacement and waste streams

Repeat: Continuous cycle reduces operating cost and environmental impact