



## Diving into Automated Self-cleaning Filtration Solutions for Aquaculture

The aquaculture industry has become increasingly important in meeting the growing global demand for seafood, as wild fisheries face challenges such as overfishing, habitat destruction, the effects of climate change, and declining fish stocks.

Enabling aquatic organisms to be raised in controlled environments, aquaculture can provide a more reliable, sustainable and efficient means of seafood production.

While the demands for cultivating these species vary, the need for effective treatment of water and wastewater involved in their production is universal, with filtration being vital to the process.



### An overview

Filtration is used for numerous steps in aquaculture. They include:

- Filtering intake water to remove debris and natural impurities such as high total suspended solids (TSS). Because intake water often comes from various untreated sources, such as rivers, lakes, streams, ponds and oceans (often referred to as “natural water”), filtration to remove these contaminants is an important first step.
- Maintaining water quality. In aquaculture systems, fish and other aquatic organisms excrete waste from uneaten feed, feces, and metabolic byproducts that, if allowed to accumulate, can lead to the deterioration of water quality. In turn, this can result in nutrient imbalances and increased risks of disease. Filtration helps remove suspended solids, organic matter, and other impurities from the water, helping to maintain optimal water quality parameters and ensure a healthy environment for the aquaculture species.
- Treating nutrient-rich wastewater to make it suitable for reuse. Efficient filtration practices help minimize water waste and reduce the overall environmental impact of aquaculture operations. By reusing and recycling water through proper filtration, aquaculture becomes more sustainable and environmentally responsible.

### An ideal solution

Spiral Water’s advanced automatic high solids separation and concentration technology is engineered to solve the specific challenges of filtering ultra-high and variable total suspended solids (15,000 mg/l) from water and wastewater streams. No other automatic self-cleaning filter can perform at this level.

That’s only one of several salient design features that make our filters stand apart from the rest. Our filter systems:

- Provide trouble-free operation in higher TSS solids loading of 10,000 ppm+. Standard backwash filters can only handle TSS less than 500 ppm.
- Manage variable TSS automatically.
- Offer continuous filtration plus solids concentration and solids conditioning for feedstocks and reuse of nutrient-rich water – efficiently removing particles, debris, and organic matter. This helps maintain a stable and healthy aquatic environment for the farmed species.
- Provide continuous filtrate - 99%, producing less water to waste and making our filters a smart component in any water recovery solution.
- Operate effortlessly at low system pressures as low as 10 psig - no pulsing. Retrofits require no additional pump modifications.
- Feature industry’s smallest footprint. Our filters are simple to maintain, modular and scalable.
- Are equipped with smart controls that allow reliable automated filtration from 15 to 1000 micron.

In addition, our self-cleaning filters help reduce labor and maintenance and they are designed for longevity, durability and reliability – crucial in aquaculture systems where uninterrupted filtration is critical.



Spiral Water’s Model 850PVC-SMS is ideal for aquaculture applications. All materials are suitable for use in oceans, ponds, and brackish water environments. The are available in 316 stainless steel, PVC and CPVC housings.

For more information about Spiral Water’s technology and products, [visit our website](#).

## Meet Our Solutions Providers: Insights from Control Factors Filtration



Left to right: David Gilbert, Sales Engineer; Shawnti Gilbert, Accounting Manager; and Ryan Gilbert, President

One of Spiral Water’s valued Solutions Providers, Control Factors is based in Auburn, Washington, and operates in the Washington, Oregon, Idaho, Montana, and Alaska regions. Established in 1984, it has a steadfast dedication to delivering energy-efficient and cost-effective solutions to its customers, and proudly serves as a manufacturer’s representative and distributor of cutting-edge technical products.

Its primary focus is on offering top-quality filtration and separation products as well as heat exchangers, control valves, instrumentation, and other piping-related products. The company has been representing Spiral Water since SWT’s early days in the mid-2010s.

**“Our goal is to provide our valued customers with innovative and cost-effective solutions that enhance energy efficiency, improve process quality, and generate substantial cost savings,” says Ryan Gilbert, President, Control Factors Filtration.**

“In terms of filtration products, our early focus was on bag filters, but the introduction of self-cleaning filters changed that. Spiral Water’s filters enabled us to offer customers a product designed for high TSS, high solids loading, and self-cleaning filtration,” he notes.

That has opened the many opportunities for Control Factors to help its customers. “We’ve established a good here in several markets. For example, one of them is the hydropower industry. Here in the Pacific Northwest, we’re home to a large percentage of the country’s hydropower production, and Spiral Water’s filters are a great fit for that market,” he says.

Of course, that is only one of the industries and applications for Spiral Water’s products. “We’re providing a value-added engineered product, and that’s why Spiral Water is a great fit for us. There is not a ‘me too’ type of item. We’re here to provide our customers with a solution that makes sense from an energy standpoint, maintenance – you name it – and we strive to consistently exceed expectations with an extensive range of reliable products, expert guidance, and a customer-centric approach focused on ensuring our customers’ success,” Gilbert adds.

## Advances in Automatic Water Filtration Offer New Opportunities for Hydroelectric Power Plants

Whether the cooling water source for these plants is an ocean, river, lake or pond, hydroelectric power plant operators increasingly rely on automated self-cleaning filters to remove fish, Quagga, Zebra mussels, sediment and silts from incoming water sources. [Read more](#)



## We are here to help you

**Get your free filtration audit.** Simply download and fill out our Application Data Sheet and email it to [info@spiralwater.com](mailto:info@spiralwater.com)

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**Call us** at 732-629-7553 to speak with one of our technical representatives to discuss your project or learn more about Spiral Water’s next generation filters.