Spiral Water™
Technologies, Inc.

Spiral Water: Helping the Vertical Farming Industry Reach New Heights

As the vertical farming industry continues to expand, growers are turning to Spiral Water's Advanced Automated Self-cleaning Filters to treat, recycle and reuse their wastewater effectively and efficiently. This comes at a time when, according to an Allied Market Research Report, "the [global] vertical farming market size was valued at $3.24 billion in 2020, and is projected to reach $24.11 billion by 2030, registering a CAGR of 22.9%."

What is vertical farming?

Vertical farming is designed to optimize crop yields while minimizing space and resource requirements such as water and energy. Crops are grown in vertically stacked layers (thus optimizing vertical space), often in hydroponic systems, while using artificial light sources (frequently powered by renewable energy) and precise nutrient solutions.

This technique allows for the cultivation of crops in a controlled environment, regardless of external weather conditions or the availability of arable land. The environment is optimized for the plants' growth and health, with parameters such as temperature, humidity, and carbon dioxide levels carefully monitored and adjusted as needed.

What are its benefits?

Vertical farming represents an exciting and growing development in agriculture. Shifting the production of crops from traditional, land-consuming outdoor farms translates into a greatly reduced land footprint as well as considerably less of an environmental impact. With indoor vertical farming, crops can be grown throughout the year, even in urban settings. Vertical farming also consumes far less water than traditional agriculture (it's estimated that agriculture currently accounts for 70-80% of freshwater withdrawals globally), and the water can be recycled and reused. It can also reduce pesticide use.

In addition, vertical farming can also provide a way to grow fresh produce closer to the point of consumption, minimizing the need to haul it over long distances. This reduces the cost of transportation, lowers fossil fuel consumption, and reduces emissions. Another benefit is that the produce is fresher when it reaches the consumer.

How are Spiral Water filters used?

In many cases, vertical farms use advanced irrigation systems that are designed to be highly efficient and minimize water waste. Drip irrigation, hydroponics and aeroponics are effective ways to deliver water to the plants while preventing waste due to runoff or evaporation.

Spiral Water filters provide a key component in any water recovery and reuse approach, and they are very well-suited to the requirements of vertical farming. In the case of vertical farming, nutrient-rich water being used in hydroponic drips can pick up particles and other solid debris during this process. Spiral Water filters can ensure that water is free of these contaminants before being reintroduced into the system so that it does not foul nozzles or disturb the lines. Our filters can also be used to treat wastewater bound for discharge and ensure that it complies with strict community discharge limits.

Our next-generation automatic self-cleaning filters are widely used for industrial and organic wastewater treatment, pretreatment for microfiltration, ultrafiltration and reverse osmosis, water recycling and reuse across a variety of industries. Engineered with our patented high solids filtration and concentration technologies, they can be used as a pre-filter, primary filter or for reclamation from existing filter backwash of centrifuge overflow. They are known for their ability to handle wastewater TSS removal and to process bulk solids removal up to 15,000 mg/l TSS (15% by volume), providing continuous 15 to 1500 micron filtration. (Removal of TSS typically also removes a percentage of BOD and COD.) In addition, our proprietary one-pass filtration process eliminates backwash of cross flow, thus conserving water, increasing uptime, and reducing Capex.

We invite you to learn more about our filters and their application in vertical farming. Contact us by email or by calling us at 732-629-7553.

Meet Our Solutions Providers: *Insights from Findlow Filtration*

Based in Blue Ash, Ohio, 20 minutes north of Cincinnati, Findlow Filtration, Inc. has earned a well-established reputation for customer satisfaction, providing tailored product solutions and expertise in helping companies improving their filtration processes.

Our family-owned company was founded in 1956 by Robert Findlow, who was joined by his sons in the 1960-1970s. With the philosophy of the "right product for the right application" and applying the extensive knowledge their team had attained, Findlow Filtration became a clear leader for filtration processes. Today, as a third-generation business, we remain committed to providing superior customer experience and accurate solutions for companies' filtration processes.

We look for good solutions for our customers. We care about our customers' results, and we care about their ROI. Our company has been around forever because we treat our customers like a small family business would. We're not just looking to sell an item – we want to establish relationships that are decades long, not a quarter or two.

Findlow represents Spiral Water products in Ohio, Kentucky, Indiana, Tennessee, and we are expanding our reach into the mid-south, where industrial growth is strong with much of it centered around EV production.

The real magic of the Spiral Water filter is that it manages variable TSS loading so you can set it and forget it.

We are finding that customers want us to serve their larger footprint in North America. We're perfectly happy to go wherever we need to in order to serve their needs.

Findlow carefully selects the manufacturers we represent. We have worked with Spiral Water for several years. We've got their filters running out there, and they're working really well. For example, one of our customers uses a pond at their facility for their processed water. Their system incorporates a first stage Spiral Water filter and a media filter behind it. With the Spiral Water unit, we took the back washing load off of the media filter by a factor of four.

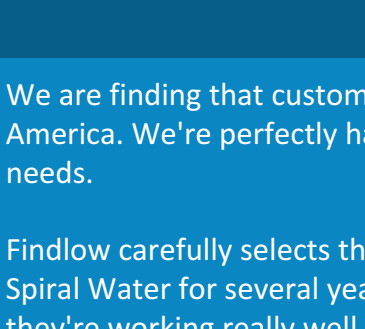
We have also noticed another benefit: reduced manpower requirements and increased uptime. Overall, the real magic of the Spiral Water filter is that it manages variable TSS loading so you can set it and forget it, and every now and then, make sure nothing's broken on it. But it'll just sit there and do its thing.

Did You Know?

Spiral Water filters are used in a wide array of industries and applications including:

- Indoor agriculture and vertical farming
- Treatment of farm waste digestate for disposal or conversion into biogas for renewable natural gas
- Food & beverage processing and treatment of food processing wastewater
- Wineries, distilleries and breweries
- Filtration for equipment protection in natural water source cooling systems in energy, power generation, and hydropower facilities
- Seawater filtration for protection of marine and shipboard desalination systems
- Land-based desalination systems
- Industrial water recovery and reuse targeting zero discharge
- Industrial membrane (MBR) protection systems

Learn more by visiting our website.



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

Download Application

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.