



California Breweries Choose Prime Solutions Rotary Fan Press to Reduce Waste and Increase Efficiency

“Some considerations that led to choosing Prime Solution’s Rotary Fan Press were: energy cost, polymer use, and labor/time cost.”

Rhianna Meade, Research Engineer, Cambrian Innovation Inc.

Brewery wastewater mainly consists of two streams: 1) residual substance from production & biological augmentation; and 2) cleaning of fermentation and storage tanks as well as vat and bottle rinsing. “Sludge” and sludge dewatering is often the final liquid / solid separation step between breweries and industrial treatment plants.

Sludge haul off can cost hundreds of thousands of dollars a year. Dewatering sludge is a good alternate to costly wastewater haul off using tanker trucks. Typically, sludge dewatering reduces waste water haul off by greater than > 90%

Using Prime Solution's Rotary Fan Press*, waste water sludge can be efficiently dewatered. The cake solids removed from the rotary fan press are either landfilled or given to local farms for soil amendment. The pressate water from the Prime Solutions Rotary Fan Press is clean enough to be sent to the local wastewater treatment plant. Clean, low solids pressate reduces the environmental impact and opens the door for further sustainable water recycling.

Lagunitas Brewery in Petaluma, CA, one of the fastest growing craft breweries in the U.S., is utilizing Prime Solution's Rotary Fan Press in conjunction with Cambrian Innovation's EcoVolt solution.



Lagunitas faced steep economic and environmental costs for dealing with spent process water at their Petaluma facility. One priority was to eliminate the cost of trucking off process water, while also slashing their carbon footprint. In 2014 the brewery leveraged Cambrian Innovations EcoVolt* solution to perform onsite wastewater treatment, water reuse, and clean energy recovery. Creating a total solutions sustainable process.

As part of the water management process, Lagunitas selected Prime Solutions RFP-2.0-36 Dual Skid System to dewater their waste sludge. Prime Solutions Rotary Fan Press provided Lagunitas a sustainable solution for water reuse, while reducing overall operating costs. Their key selection factors included the following:

- Reducing environmental impact.
 - The system has 7 HP overall, allowing for the lowest energy use for mechanical dewatering.
 - High cake solids of up to 17+ % and clean filtrate $\geq 95\%$.
 - Low water use for operation.
- Reducing costs.
 - Elimination of hauling costs $\geq \$200,000$ annually.
 - Reduction of polymer use.
 - One wear part at a cost of \$250 per channel, per \$10,000 hours.
 - Start-up/Shutdown hours equal to .5.

- Proven technology that is reliable.
 - Minimal or no maintenance to date.
 - Superior support.
 - Easily automated.

Bear Republic Brewing:

“The Fan Press, for us, just has been a solid piece of equipment. Solids removal is probably the most important step in our waste water treatment process. If you can’t remove solids everything else upstream is going to struggle. Prime’s Fan Press has just been rock solid for us. We have had no problems and it’s just been a pleasure to work with their customer service department, and I really couldn’t ask for a better piece of equipment.”

Dave Woychik, Bear Republic.



Bear Republic Brewing Company is a family owned brewery known for their high-revving IPAs and environmental stewardship. Faced with both water supply and process water discharge limits, they began to explore onsite process water treatment solutions to support their expansion. Additionally, they wanted to reduce the load on the city of Cloverdale’s overworked municipal treatment plant infrastructure. The brewery’s desire to create a sustainable waste water treatment process led them to Cambrian’s EcoVolt solution, which they purchased in 2014. The Cambrian EcoVolt process in turn needed dewatering equipment to assist in maximizing solids removal to support expansion and reduce discharge to the local wastewater treatment plant.

When Sustainability and Simplicity are Key Factors

Overall plant operations typically look for efficiency and cost of operation reduction. In the progressive world of brewing this has been expanded to measuring business operations in terms of sustainability:

- Environmental Sustainability
- Social sustainability
- Economic sustainability.

Operators and maintenance look for simplicity:

- Easy to Operate
- Minimal Downtime
- Minimal Maintenance

What technology was the best fit for Bear Republics situation?

Prime Solutions RFP-36 Single Skid system's benefits outweighed the benefits of all other technology.

Prime Solution's Fan Press satisfied Cambrian and Bear Republic's needs because the sustainable attributes and simplicity of design and operation allow it to:

- Require less energy.
 - The complete system is only 7 HP, which is much less HP than other mechanical dewatering equipment.
- Have a smaller footprint.
 - The compact design fits in small spaces, reducing the need for added square footage.
- Simplicity in design.
 - Easy to maintain and minimal to no maintenance requirements aside of general preventative maintenance reduces cost.
- Requires less water.
 - Wash and clean up water requirements are minimal and can be controlled by plant personnel.
- Requires little operator time.
 - The simple design allows operators to start the machine up and walk away to focus on other tasks/responsibilities. If process or pressure change outside of parameters the machine will alarm out and shut down to prevent any mess.



Prime Solution is a leader in dewatering solutions with one mission: Design and manufacture simple, sustainable, effective dewatering solutions to exceed the needs and wants of our customers. We engineer from an operator's perspective – simple is better. As sludge dewater requirements change the family of Rotary Fan Presses evolve to meet requirements while maintaining proven operation advantages. Patented screen technology offers superior performance at a lower cost with a prolonged service life. Prime Solution is now offering a lifetime/extended warranty. Models are available in multiple sizes, with the ability to accommodate additional channels for future process flow expansion.