

## We talked with Kirinokura Brewery, who have adopted Pall's SUPRADisc II.

### Adopting SUPRADisc II allowed us to reduce costs by cutting back on manual labor

Before changing to using SUPRADiscII, we used an Ecoflux-Smartline DE candle filter. Preparing the filter for production took a lot of time because of measuring out DE and mounting the filter. On top of that the possible harm to our operator's health by handling the DE powder and possibly inhaling the dust was a concern for us.

The disposal of the spent DE was a work intense process: collecting the spent DE in a vat, draining off the supernatant, then drying the remaining DE and sealing it in drum canisters for disposal. This work now became unnecessary. In filter preparation alone, we have been able to shorten manual work time by thirty minutes to an hour and overall work time by an hour or more.

The amount of working time having been reduced for filtration by adopting SUPRADisc II, can now be spent on making other products, raising overall production efficiency, and cutting back on overall cost of production.

### With Pall's technical support, we were able to choose a modern and satisfying technology for filtration

In the starting phase, small scale testing was performed to find the right technology. Specifically, we did test in table-top scale with multiple types of filters we were considering adopting and, through sensory evaluation and fluid evaluation of the filtered beer, we were able to choose a filter suited to our company's beers.

In the study tests, when we initially ran the tests with fine-pored diatomaceous earth, even components of the beer we wanted to keep were removed, the flavor of the beer became flat, and the filter became clogged. In light of these results, we then made the pores coarser, which improved flavor, but the beer was somewhat cloudy, so clarification became an issue. Then, as the result of study tests under multiple sets of conditions, we eventually moderated the coarseness of the pores and added a pre-filter and were able to decide on a filter that could filter acceptably for our product.

When we were considering a new filtration process, we wanted to carry out sensory inspection and fluid evaluation, including sensory evaluation of the filtered beer, removal rate of yeast, and so on. However, to do testing using the actual lines, it would be necessary to prepare around 1,000 liters for testing, so it is difficult to actually conduct adoption study tests using actual equipment. However, if we were to adopt without studying first because of the difficulty, we would be



The product concept of Kirishima beer is "beer made from clean, beautiful water originating on Mount Kirishima." This means that it is born from the combination of Kirishima fissure water refined naturally over a long period, the finest raw materials, and knowledge and skill coming from our experience distilling shochu.

manufacturing without confirming first whether the filtered beer preserved the flavor of the Kirishima beer brand, whether the flavor would be accepted by our customers, and so on. Thus, this support was extremely useful in doing testing on a small scale and being able to bring a product to market that would not harm our brand image from the beginning. I think manufacturers that have small-scale lines like this exist, but I don't think there are very many of them, so the support we received when considering adopting the equipment was quite good for us.

## SUPRADisc II depth filter module

**The SUPRADisc II module makes highly economical particulate filtration and microbial management a reality at food manufacturing sites.**

### Advantages

- Module handling and filter media replacement is simple
- Filter life is extended through backwash function
- Closed system reduces the risk of contamination
- Increases production volume through avoidance of liquid loss and complete recovery of filtrate from filter housing using CO<sub>2</sub> pressure
- Shows outstanding heat resistance in steam sterilization or high-temperature sanitation
- Compact design with 20 m<sup>2</sup> filter area in a single housing
- Increased retention of yeast and solid particles due to the combination of depth filtration and a strong adsorption effect
- Highly pressure resistant



### Materials

Component	Materials
Sheets	Cellulose, diatomaceous earth, perlite, binder
Center core	Polypropylene
Gasket	Polypropylene (for double O-ring specifications, 304 stainless steel ring inserted)

### Dimensions and Weight

Diameter	284 mm
Height	272 mm (gasket specifications)/332 mm (double O-ring specifications)
Dry weight	5–6 kg (differs depending on filter media)



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