



Filter Products Company had been supplying custom filter bags to one of the largest coffee and tea liquid concentrate in the world for many years. Their products are used primarily in Quickserve restaurants, commercial kitchens, retail stores, and c-stores. The customer requested our help to improve the throughput and manufacturing efficiency of their hot and cold brew concentrate brewing process.

## Customer Issue

This customer was using an older filter design in their brewing vessels. The issues with this filter design that were slowing down their manufacturing process included:

- **Poor filter bag fitment** in the brewing vessel causing leakage,
- **Difficulty manipulating the filter bag** because it did not include handles or lifting loops, and
- **Poor mechanical durability** of the filter bag. Sometimes the bag would burst when being extracted from the brewing vessel. The brewing vessel typically contained 150 lbs. of wet coffee grounds. When the filter bag broke, the brewing vessel had to be cleaned.

All these issues impacted the customer's manufacturing productivity and, in some cases, caused production downtime.

## Filter Products Company Solution

After being contacted by the customer and being made aware of the issues, the FPC engineering team traveled to the customer's production floor to assess the situation. The issues were quickly evident upon witnessing the brewing equipment and the process. This led to a discussion of filter redesign options with the customer's manufacturing engineering and production team during this two-day visit.

The Filter Products team came back and redesigned the filter bags to address all the issues identified. The team then built prototypes and sent them to the customer to test.

The customer and the Filter Products team went back and forth on a couple of design iterations. In the end, the new design included a more durable filter material (heavier weight fabric but at the same micron rating), revised size and shape, added lifting loops, and reinforcement of the collar at the open end of the bag.

## **Customer Result**

Downtime has been eliminated because the more durable bags better fit the brewing vessel and no longer burst in use. Further, the redesigned filter bags have twice the production life compared to the previous filter bag design, reducing costs. Finally, now that the bags have handles, production workers can load and unload the filter bags more easily, leading to higher productivity.

## **Services Used**

On site engineering analysis, custom filter bag design expertise, prototyping, testing, material sourcing and new manufacturing process.